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No. XVIII. OF VOL. II., 1932. LONDON, SATURDAY, OCTOBER 29, 1932 Pp. 112 — Price 1s.

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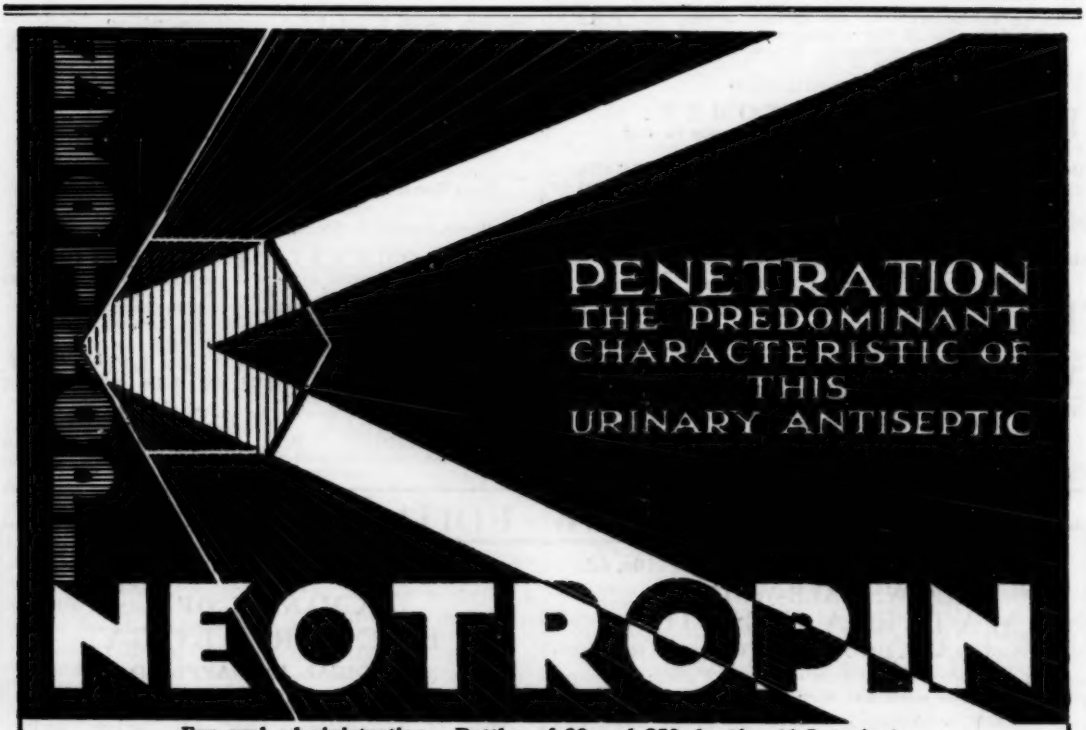

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BY J. R. REES, M.D. CAMB., D.P.H.

DEPUTY DIRECTOR OF THE INSTITUTE OF MEDICAL PSYCHOLOGY, LONDON

IN the far past, before medicine set out to become an exact science, there was, it would seem, considerable insight into the emotional factors in the causation of bodily and mental sickness. With the increasing emphasis on objective facts, much of this was lost. In the last 30 years, and more particularly since the war, the pendulum has been moving very obviously in the opposite direction, to a wider and a saner outlook. The study of the whole individual—human medicine—which necessarily includes the assessment of mental and emotional states as well as structural and physical disorder, is stimulating the imagination and claiming the attention of the medical profession, both general practitioners and specialists of every kind, since it opens doors which had hitherto remained closed. Medical psychology, the least taught, though by no means the least important branch of our work, has therapeutic possibilities which we have only begun to explore.

There is, of course, no difference of opinion about the end-results of the addictions, the toxic effects of alcohol and other drugs with which we are all familiar. Those in themselves present many problems, but we are not discussing them here. One should, I believe, keep an open mind on the question of the degree in which chemical action helps in the formation of the drug habit—certainly there is a vicious circle set up. The effect of increasing tolerance upon the individual may also be important, but I cannot help feeling that beyond doubt the essential causative factor in these conditions is a habit of mind, an attitude towards life. Alcoholism and drug addiction are, in almost every case, the symptoms of a psychological maladjustment. These abnormalities of outlook and conduct are as much symptoms, as a pain in the præcordium may be the symptom of a damaged and badly compensated heart. To treat the symptom may be very wise at times, but it is essential that we should try to acquire a causal therapy.

Very largely, therefore, the problems of prevention seem to me to fall within the sphere of mental hygiene and those of treatment are to be solved by wise psychiatry, though by saying this I do not intend to imply that specialist knowledge is always needed.

The Approach to Addiction

To my mind there is no very obvious and fundamental difference between the psychology of the alcoholic and that of the drug addict. Differences of opportunity will sometimes explain the particular directions in which people indulge themselves. It has occurred to me that often those who take drugs other than alcohol are of a rather less intelligent type than their social equals who over-drink. The mental stimulation of drugs is to them an additional motive for their action.

The most usual reply that I have received when I have asked addicts why they take their particular drug is: "Because I am fed up," though all of them have to add that they now cannot do without it. It is probable that the same answer would be given by a majority of occasional drinkers and by all secret drinkers, though they would naturally couple with that answer the fact that they liked alcohol, because it relieved them of their sense of oppression at having to stand up to the circumstances of life.

Whatever psychological or emotional factors may be at work, it is certain that there are many physical conditions which lead up to "breakdowns" or addiction. Toxæmia, whether from fatigue or from septic foci, a lowered blood pressure, and endocrine failures may be mentioned as some of the many conditions which must be investigated and treated if the individual is to be at his maximum capacity to deal with his problems and habits. Mental defect, epilepsy, and manic-depressive psychoses must also be mentioned for their share in producing addictions in certain cases.

The most important approach to these conditions is, however, without doubt, through their psychological aspects. Unwillingness or inability to meet the strains of life, which finds relief in alcohol, may be the result of an almost infinite number of causes. It is doubtful whether there ever can be a state of addiction without antecedent emotional disturbances. In the main, the cause of addiction is endopsychic—in the personality of the sufferer—though environmental factors precipitate the trouble in the majority of instances. One wonders what were the personal problems of those many hundreds of doctors who, we are told, wrote such glowing testimonials to that well-known product of the Irish Free State! It must at least have appeared to be "good for" them. Their enthusiasm cannot have been merely due to gratitude for a sample.

Maladjustment and Regression

The square peg in the round hole is perhaps the best way of illustrating the maladjustments that occur in the life of every individual. Few of us are always in a position to adapt perfectly to our circumstances in life. Obviously in a great many cases the capacity to adapt is almost entirely lacking. The ordinary practice in psychological medicine in dealing with children is to attempt the alteration of environment, so as to minimise the problems and modify the difficulties for the child. With adults this is not as a rule possible, nor is it indeed very desirable, since it is hard to produce a permanent improvement in this way. The child, as it grows up, should learn to remove some of its own square corners, and the adult neurotic, provided he has reasonable intelligence, has always to do this if he is to be free of his difficulties. Put in this way, it is clear that a good many adults fly to alcohol because it saves them from feeling that they do not fit into life.

Psychological regression is the most important fact in the pathology of most psychoneuroses and in all cases of addiction. Retreat from the difficulties of life is permissible and advisable up to a certain point. Fairy-stories present life to children in a form which they can understand, and make-believe softens a great deal of the undue hardness of reality. We permit ourselves many forms of retreat in adult life; food, bed, holidays, books, and aspirin—all of these have their reasonable place in our scheme of life. The relief of pain or of tension is of real value for our efficiency and happiness. It is a perfectly admissible argument that alcohol has a place also in the life of the ordinary man. The difficult point to decide is just

* A paper opening a discussion at the Society for the Study of Inebriety on Oct. 11th.

where virtue becomes vice, and an aid becomes a hindrance. The man who discovers this point for himself, and is able to draw the line, is a well-adjusted and a well-balanced man.

If we are to understand the part that pathological retreat plays in ordinary life, it is necessary to go back to the early days in the development of the child. To put it in non-technical terms, the ideal that we aim at for our children is that they should have real freedom to grow up into whatever they have it in them to be, that they should be well-expressed, independent, coöperative—which implies self-disciplined—and courageous. Broadly speaking, if we had these qualities, we should be happy. I have not mentioned success, because it is clear that in the up-bringing of a child, it is far more important to emphasise effort than to think in terms of success and failure. Since the ideal parent has not yet been born, it is obvious that no child gets the ideal up-bringing. There is, inevitably, warping of the child's emotional development in early days, and when this is serious, neurosis may result or maladjustment sufficiently marked to give rise to abnormalities of conduct and habit. Without laying any undue emphasis on the point, it is useful to visualise the sharp contrast which the baby experiences when it first comes into conscious life. The peace and security of its intra-uterine existence give place to a constant series of adventures and challenges which are alarming and difficult. That situation is repeated all through life, but especially, of course, in the earliest years. The mother stands to the child for safety and he retreats from adventure and the unknown to her.

So from the beginning of life there are the two pulls, one to safety and the other to adventure, and it is upon our success or lack of success in achieving the adventurous spirit that much of our mental health depends. The child who has been unduly frightened in its early days, or whose mother has been too willing and seductive a protector will certainly have more fear. "Safety first" will be his motto, and in later life it is more than likely that he will find an escape from his fear in narcotics. The failures in his development make it difficult for him to adjust himself to circumstance, and regression to some infantile phase must occur.

Failures in Development

It is impossible to list here all the various difficulties which may arise in the course of development, which are likely to lead to addiction in later life, but we can perhaps consider a few of the outstanding problems. The spoilt and indulged child develops an undue sense of his own importance; so does the clever child, who receives praise for his inherited qualities instead of merely for his efforts. The only child and the delicate child come into the same group. Starting life with a sense of self-importance, in the specialised atmosphere of home, must always lead to difficulty when the child has to venture out into the world. Self-consciousness in varying degrees results from this, and other fears of all kinds develop. The very close relationship which such a child has usually had with its mother not only holds it back from independence, but also produces in many cases a tendency to a guilt feeling, which will be carried on into later life.

The relief of self-consciousness is certainly one of the commonest pathological reasons for taking alcohol. The adult who can accept the fact that he is a fool does not mind other people thinking him one and, therefore, has no fear and no need for artificial help in his social relationships. The persistence of a guilt sense—as opposed to discontent with oneself—is, it need hardly be said, one of the greatest hindrances to reasoned effort with neurotic tendencies and to recovery.

In the earliest years of its development every child passes through what is known as the auto-erotic stage of development, that period when it can first conceive of itself as an object to be loved. That auto-erotic tendency persists with all of us throughout life, in a degree which varies with our up-bringing and our insight. Looked at from one point of view life is a progress or pilgrimage from the self-important, egocentric, auto-erotic attitude of the baby to the attitude of complete social adjustment at the other end of the scale. Though we may work hard to reach our destination, we none of us do so, and our self-love will manifest itself in various ways: as social selfishness, bad temper, self-pity, playing for safety, through sex—as masturbation or promiscuity—in over-eating and in over-drinking. There is but little difference fundamentally between the man who is unduly concerned in saving his own soul, and the man who runs from the difficulties of life and makes himself comfortable with alcohol.

The adult who, as a child, was indulged or found life too easy, must in consequence have a feeling of relative deprivation in many of the circumstances of his life. He is not sufficiently loved, the luck is against him, people do not sufficiently appreciate him; his self-pity leads him on to self-gratification. We try to give things that will please, to those whom we love.

The Sense of Inferiority

There are, in addition, states of actual deprivation which are all too common in these days, to which the same reaction is made. It is in this way that bad social conditions play their part in creating the need for alcohol. The problem of inferiority, so much and so loosely talked about, comes in at this point. A sense of inferiority cannot exist without there having been some antecedent sense of superiority, and practically everyone as a child, whatever his social or economic circumstances, has felt superior. The reaction to a feeling of inferiority is almost inevitable as he grows up; the more he has felt superior, the more he will be worried and inferior and be anxious to compensate in some way or other for his loss of self-esteem. It would be interesting to know what proportion of people begin to drink alcohol, or to take drugs as part of their effort to show how grown-up, manly, or independent they are. I fancy that it would be a high proportion. We have all of us met many confirmed alcoholics who began their career with adolescent "swank" and then found that they had discovered a means of acquiring temporary and much-needed confidence.

A few years ago I had under treatment a very able professional man who had completely wrecked a brilliant career through alcohol. He was practically never sober, not even when he came for treatment. As a child he had done brilliantly at school, and shown most unusual evidence of accomplishment in almost every way. When he was 15 he discovered that he was illegitimate and that his supposed parents were not in reality any relation to him. Feeling inordinately inferior, he struggled all the harder for the approval and leadership of his fellows. He developed a bitter antagonism to his foster-father, whom he felt had been responsible for the deception. At 16 he was dared by a woman to have a drink, did so, and returned home drunk. From that time on, having discovered that he was wittier and brighter when he had taken drink, and that it also gave him a power to hurt his foster-parents who were very strictly puritan, he began to drink consistently and had carried on the habit in the midst of a brilliant career, with which it constantly interfered, for 30 years. Alcohol had helped him to deal with a sense of inferiority that he had never recognised or thought of sufficiently on the conscious plane. When he did begin to realise the emotional situation

as it was, he was able to solve the problem and to get away completely from his addiction.

In illustration of the same theme, one might mention a professional man who had been a morphia addict for 20 years. He was not very able but both as a boy at home, and later on at college, he was enormously popular and consistently got limelight by the easiest possible means. When he set out to practise his profession he was just moderately successful, but he was not satisfied. He had too much work and too little limelight, and had a nervous breakdown. For some reason in that breakdown he was given morphia, and from that the habit developed. His inferiority feeling was the direct cause of his morphinism.

A girl of 24, with an old infantile paralysis, brought up in a very unhappy home where she was only treated kindly by her father, broke away from her home environment when her father died. She had money and the possibility of nearly everything that could have made life worth while. Her damaged leg was, however, a constant obsession with her and her early emotional experiences made her asocial and lonely. In Paris she was introduced to cocaine which seemed to solve many of her problems. She was treated on several occasions and it was never very difficult to get her away from the drug, but each time she went back. What appears to have been final cure was achieved by an elderly and very paternal surgeon who ankylosed her knee and made it possible for her to dispense with leg-irons. Both of her problems were relieved to some extent, her inferiority was lessened, and she had found a father-substitute. In that particular case, psychotherapy was never tried at all seriously.

These are merely illustrations of types of cases which are familiar to all of us, where people find that by the use of drugs they can put themselves more in tune with life. Drugs not only remove inhibitions, but they give an apparent courage and forgetfulness that is very much like Nirvana for the infantile personality; the square corners are forgotten.

In these conditions, as in all psychoneurotic states, one can see evidences of that struggle for completeness which goes on perpetually in the personality. If we have not our birthright, or feel that we have been deprived of it, we must necessarily find means to get it.

Treatment

There are many other ways in which addiction comes about. The sense of frustration of the unmarried woman, the feeling of incompleteness that is associated with homosexuality, and indeed almost every unsolved problem that vexes the psychoneurotic patient, may lead to alcoholism or drugs. The important thing to remember is that for every such breakdown there is a cause, and that through the discovery of that cause it is probable that the situation can be modified and in many cases permanent cure achieved.

With regard to the treatment of the addictions, one of the first steps that should be taken is to do what one can to remove the guilt-sense attaching to the condition. There can be very few patients who come our way who have not been treated as guilty and worthless people by their friends and relations, and many addicts are unable to start seriously on the business of getting well because they do not see that their trouble is a definite illness—a mental or emotional disorder. They cannot cure themselves by will-power; it is safe to assume that this has already been tried over and over again by anybody who presents himself voluntarily for treatment. With them, as with the psychoneurotics, it is useless to say "pull yourself together"; they do not know what to get hold of nor how to pull, nor can they get well without help.

The actual task of getting the patient off whatever drug he is taking does not present any unusual difficulties. However serious the condition may be, by one or other of the various standard methods of withdrawal, he can be got free from it. When this has been done we have to start to treat the addiction itself, and that is by far the more difficult task as a rule. It is possible to help patients from the psychological angle even while they are still drinking or taking drugs, provided that the dosage is not so great as to render them mentally incapable of coöperation. It is, however, better that the patient should be right off drugs, if that be possible. The aim of treatment should be the discovery of the cause of the maladjustment. If the patient can be got to see and realise his own problem, and can recover the repressed emotion which is associated with the origin of his trouble, we shall have gone a long way towards putting him in a position to solve that problem without further artificial aids or evasions.

Methods of Approach

There are, of course, a number of different methods of psychotherapeutic approach.

Persuasion, a method which is much used by many physicians and which had a considerable amount of apparent success in dealing with the war neuroses, has, I believe, very little value in the treatment of alcoholism. It is too superficial to effect much change in a state of mind where the trouble is very deep-seated. The instances of addicts who have been cured by a sudden marked emotional experience are numerous. Religious conversion works in this way, and there is no question at all of the permanence of the change that is brought about in certain types of people who are more of the emotional than of the intellectual type. The Oxford Group Movement, which is much to the fore at the present moment, is apparently achieving somewhat similar results. If it be possible to present to the individual a picture of a different kind of life which catches his imagination and stirs him sufficiently deeply, then there is no doubt that he can fall out of love with himself and into love with his new ideal. This, however, is not a method of therapy that is universally applicable, and while not wishing in the least to minimise the importance of the change that may be called spiritual, I do not feel that it is in most cases the soundest method, or one most likely to produce permanently good results.

Suggestion, which of course enters into the methods of spiritual healing which have just been referred to, can be used as a deliberate therapeutic procedure, and with certain types of patients has great advantages. The unintelligent, the old, and those who are very young mentally, can be helped by suggestion and there are many instances where, in its strongest form as hypnotic suggestion, it has produced what may be called cures of addiction. I have qualified my use of the word cure, because it seems as though in most psychoneurotic states suggestion can only relieve symptoms while still leaving the root of the neurosis untouched. The conflict is probably still unrecognised and largely undealt with, and there is always a risk that its effects may re-emerge in the formation of some fresh symptom.

Mental Analysis.—There is no certain method of straightening out the crooked paths that have led to the morass of neurosis, except through some form of mental analysis. In appendicitis we should be discontent with any method of treatment that merely dealt with the pain; the surgeon has to come in, in most cases, to remove the cause of the disability. This is very comparable to the situation that we have to meet with these patients; something like mental surgery is needed.

Analytical methods vary very much, from the ordinary careful anamnesis, to a detailed deep

analysis of the type which Freud has called "psycho-analysis." In between these two extremes there are many analytical methods employed, which make use of the method of free association and of dream interpretation, but which are directed somewhat more by the physician than would be the case in psycho-analysis. For the majority of patients with whom we have to deal, this is adequate, and analysis conducted in this way is naturally quicker than by the orthodox Freudian method.

The method that one employs should, I believe, be the one that seems best suited to the individual case. The man whose trouble is primarily the outcome of an hysterical diathesis can probably be helped by the shorter methods. The man who is obsessional in type and whose addiction is part of his compulsive state will need a much more thorough-going analysis. The specialist may need to handle some of the more complicated cases. The general practitioner, while he has not the time and, very likely, not the necessary knowledge to carry out an elaborate analysis, can do a very great deal with the majority of his patients. A little knowledge of psychological mechanisms is so much better than none, and if we are content to let our patients do most of the talking and to listen ourselves, more can be accomplished than most people believe.

This is not the place to attempt any description of the methods of psychotherapeutic approach. I wish to emphasise, however, that with these patients, whether they be in their own homes or in institutions, we are doing less than we might if we are not setting out to find the cause of the illness, and to help them achieve their freedom. We can adjust environment considerably, but we cannot handle problems which are endopsychic without employment of some psycho-therapeutic method.

The treatment of the addictions is, like the treatment of all other conditions, very much more easy and more satisfactory if it can be undertaken at an early stage of the illness. If the medical profession recognised the importance of dealing with alcoholism in its beginnings, before the habit is well-established, the results would be more rewarding. Unfortunately our undergraduate medical education does not teach us very satisfactorily to recognise the importance of psychoneurotic reactions. In an overcrowded curriculum, there seems to be little time to discuss the problems which lead up to disorders of the sex life, and to the misuse of drugs. The doctor who is treating such cases needs a great deal of insight and a great interest in the personality of his patient. He must be tolerant, and he must be willing to spend time. With this equipment the general practitioner, who already helps great numbers of incipient alcoholics, would find that he was able to help still more, and to produce more permanent results.

Prevention

The prevention of addiction is a more interesting and a more profitable subject even than its treatment. Ross's discovery of the relation of the anopheles to the spread of malaria has made it possible to get rid of that disease, though as yet we have not managed to carry out all the measures that should be undertaken. In the same way, armed with a considerable amount of knowledge as to the ways in which neurotic tendencies arise in the individual, it should be possible for us, in time, to produce a race of men and women sufficiently well-balanced and adjusted to have no need for the use of drugs in the wrong way. It should certainly be possible to eradicate these disorders, whose symptoms at present constitute so grave a social disease. In this country, education and the improvement in the standard of living have already done much to lessen the problem. As we train men and women, inside and outside the medical profession, to understand the causative factors in the emotional life of the individual, we shall be able to do still more. We need education, but not in the evils of alcohol. So much more can be done by emphasising the advantages and privileges of right living and right thinking, and by inculcating courage and the spirit of adventure.

There is a curiously true ring about the name "Band of Hope." It would be very good if they could be, in fact, bands of hope and courage. Too often, I fear, they have turned into bands of pessimism and of evasion. Children, passing through these organisations, have got a negative impression with regard to life; there has been over-emphasis on the symptom of alcoholism, and the tendency to seek safety has been increased instead of countered. It is a fundamental principle of modern education that, wherever it is possible, one should be positive rather than negative, and should tell people to do certain things rather than not to do others. If we are to help children through education to grow up to a life in which they will not need to take refuge in alcohol, it is, I believe, far better that we should stress the positive principles of living and touch on warnings and prohibitions in the lightest possible manner, if at all. If anyone is in doubt of the effects of prohibitions on the mind of the child and the adolescent, the situation which has arisen in America is informative. We must face these problems sufficiently thoroughly to be able to direct people in the right direction, so that we may say "do" instead of "don't."

The total abstinence pledge has been one of the greatest stand-bys of social reformers in the past. That, however, is also negative in its approach to the problem. There is nothing, in a promise not to drink alcoholic liquors, which fires the imagination. A new form of declaration might be very useful if it presented a picture of a free, courageous, and coöperative life. People who have been brought up as children to value their manhood and their freedom and their varying capacities are not likely to make bad use of them in later life.

Our prophylactic efforts must certainly be directed towards early childhood, for the root of the matter is there. Parental education is being undertaken on a much more widespread scale, and in a far more intelligent fashion. Throughout the country there are bodies like the Home and School Council and infant welfare organisations, which are helping parents to a better insight into their children's minds, and presenting them with wiser methods of dealing with the difficulties of childhood. Even the daily press has now taken up this propaganda, and quite often their effort is of value. The fact that journalists consider the matter of mental health in childhood to have news-value is an indication of the awakening interest of men and women in general. We in the medical profession have constantly to widen our field of work. Preventive work in mental disorder is as much within our field as the treatment of established disorder should be.

To sum up the points which I have tried to make in opening this discussion: The foundations of personality and character are laid in the first few years of life, before seven. Since there is always an emotional causation for addiction, it is essential that we should appreciate and investigate the "pattern of life" of the individual concerned. Treatment

by environmental means, and still more by psychotherapy, can cure the patient. Wiser and more understanding treatment of the child in early days will obviate the necessity for that child in adult life to break down under the strain of circumstances and take refuge in alcohol or drugs.

THE GOLDEN AGE OF THE CRAFT OF SURGERY*

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I have had some difficulty in selecting a topic for this address, for my most recent interests have been minutely technical and therefore unsuitable. After consideration I decided to offer some observations on surgery as I envisage it; that this is the Golden Age of surgical craft. The particular aspects of the matter that I shall bring to your attention are two in number; the fact that the spirit of a sentence constantly on the lips of John Hunter made this age inevitable, and the mirroring of the age in biological research and in surgical education.

The saying to which I refer was a favourite observation of Hunter's a century and a half ago: "To perform an operation is to mutilate a patient we cannot cure; it should therefore be considered as an acknowledgment of the imperfection of our art." Even for the man who acted as Prologue to the Golden Age of Surgery this was an amazingly astute comment on the surgery of his time, and from its second half it is easy to realise that even in an age still barren of aid from the sister sciences, Hunter had a vision of the surgery of the future. At the present day the criticism has lost some of its significance. It is true that operations have multiplied, for since Hunter's day the abdominal cavity, the cranial cavity, and the thoracic cavity have capitulated to the surgeon, but many of the incursions of the surgeon's knife into previously inviolate territory are balanced by the withdrawal of other forms of disease from surgical treatment; one example of this tendency is the present practice of treating certain types of malignant disease by the application of radium. There is no doubt that in the future the labours of physicists will provide forms of treatment, and those of chemists synthetic substances, which will restrict still more narrowly the craft of the surgeon. The search for the panacea is as old as history; nowadays it has been abandoned, and the search is for selective therapeutic methods, which arm us more effectively against disease. Individually and collectively surgeons must welcome each such innovation, as Hunter himself would have done, even if it leads to jettisoning cherished surgical procedures.

The Background of Modern Surgery

While the treatment of disease is progressing but slowly toward a non-surgical ideal, operative procedures have been so perfected that little is left of the sting of Hunter's comment. At the present time our craft, and I use the word "craft" advisedly, is, it seems to me, in its hey-dey. For a century and more it has had a sure foundation in the finality of regional anatomy. It is steadily acquiring a buttress of ever-increasing strength in the rapidly accumulating knowledge of physiology. We are constantly gaining information about the life-histories of processes of disease, and since "how" matters little, we are more often turning our attention to "why." For nearly a century we have been able to operate without inflicting pain, and within the last few years chemistry has provided us with drugs for stilling pre-operative apprehension, often of almost as great moment. Above all, for three-quarters of a century we have been able to offer operation to our patients in the Lister-given security that with the dangers of the knife need not be considered the even greater dangers of infection. For technical purposes we have at our disposal an imposing armamentarium. Bacteriology has attained the position of a science, and with the unravelling of microbic problems has come an encouraging number of immunological and chemical methods of treatment. The physicist has been a major benefactor; he has provided us with instruments for bringing under direct view certain of the cavities of the body; he has enabled us to divide tissues without attendant loss of blood, and with the aid of Rontgen's rays we can visualise, directly or indirectly, a host of pathological conditions. The physiological chemist has evolved for us methods of assessing the functional capacity of many of the vital organs of the body, so that we can accurately estimate the severity of disease, and more important still, we can gauge not only the time for active interference, but also its desirable extent. In some quarters it is fashionable to decry the use of certain of these aids, but with such criticism I cannot agree. Nearly every one of them has tended to make surgical treatment safer for the patient, and whatever our intellectual attitude, we are not at liberty to dispense with the most trivial procedure that can be used to this end. "Brains," says Dr. Harvey Cushing, "are futile without technique," and we must give weight to the pronouncement of a man singularly gifted with both. Possibly, as has been recently written by Lord Moynihan, the surgeon of to-day may not be so dexterous as the surgeon of pre-anæsthetic days, when the time taken to perform an operation was the all-important factor. It appears to me that the increase in the armamentarium of the modern surgeon has more than compensated for the loss of some manual skill, although a pretty subject for debate would be the results obtainable by a surgeon of the old régime, had he available only anæsthesia and asepsis of all our present accessories.

Acquisition and Nature of the Art

Were surgery a craft alone, the setting that I have described should provide that success in its practice would be limited only by the situation and the extent of processes of disease. Manifestly, its limitations are narrower, and the explanation is to hand; surgery is also an art. The acquisition of surgical art is one of the most valuable products of experience; and in experience is included not only personal experience, but also familiarity with the writings and with the practice of the masters of our profession. To a fortunate few surgical judgment seems to come early and without effort. For the majority the development of surgical art is at first a conscious process, and each necessity for displaying it entails the deliberate weighing of all immediate and remote factors bearing upon the problem. As experience increases, decisions are reached by mental short-cuts, and to me the supreme intellectual satisfaction in the practice of surgery is the realisation, as occasion arises, that a decision which proves to be correct has required no laborious process of integration. That most

* Abridged from the inaugural address of the chair of surgery, and delivered at the University of Aberdeen on Oct. 17th.

philosophic of surgeons, Sir Benjamin Brodie, put the matter thus:

> "I cannot well understand what I have observed to happen in myself without supposing that there is in the human mind a principle of order which operates without the mind itself being at the time conscious of it. You have been occupied with a particular investigation; you have accumulated a large store of facts, but that is all. After an interval of time, and without any further labour, or any addition to your stock of knowledge, you find all the facts you have learned in their proper places, although you are not sensible of having made an effort for the purpose."

It may be added that these words are applicable to the whole field of intellectual endeavour and not to surgery alone, although they have a special significance in the field of biological research.

The Complexities of Surgery

I do not wish to give you the impression that in this golden age of his craft a surgeon can be complacent; far from it. Knowledge of his own shortcomings, and perusal of the scientific literature of the world, preclude any such attitude. Indeed, his most present feeling must be one akin to despair at the multitude of problems that cry for solution. The complexity of the matter is increased by the fact that a surgeon rarely deals with a problem in pure biology. If he could put his hypotheses through the mill of mathematics, that infallible touchstone of some of our scientists: if he could ask the test-tube to deny or to affirm: if he could segregate each ponderable factor, and analyse it in the experimental laboratory, then his tasks would be far less weighty, his responsibilities enormously lighter. But the surgeon is a dealer, not only in processes of disease, but also in human affairs. For him each problem is coloured by human nature, and its solution varies with a host of economic, social, and personal peculiarities. Each adequate solution must outline a course of action that is understood by, and acceptable to, the patient and his friends. In short, although he may, and usually does, reach his opinions by a process of reasoning conducted in the vocabulary of his profession, in his practice he is debarred from stating his argument and his conclusions in scientific terms. He must translate his opinions into language that is intelligible to the laity, and in my experience the premisses of his argument are the hardest so to construe. He must be prepared for suggested alterations in his plans, on grounds other than surgical; he who has the faculty of accepting these graciously is assured of at least material success. It is fortunate that these complex aspects of his profession do not in the very least tend to overburden the surgeon. On the contrary, they provide for him an almost unique fascination, which compensates for the laborious attention to the routine of detail, with which much of his active work is of necessity occupied.

It is true that a surgeon must concern himself with the inexhaustible problems of particular sciences. Although he must constantly keep before him the desirableness of turning to practical account the discoveries of the laboratory, it does not by any means follow that he should discourage researches that at first sight seem merely academic, for there is hardly anything biological that is alien to surgery. As pieces are added to the biological mosaic, it is often found that scraps of information, hitherto irrelevant, become first fundamental and finally utilitarian. The dictum of Froude, that the only real knowledge is that which a man can use, when applied to biological knowledge, must carry two qualifications: the first, that another man may be able to utilise a seemingly unimportant fact; the second, that biological knowledge is not infrequently acquired out of sequence, so that in time it may be possible to place such a fact in its proper setting, and in this it may prove to be indispensably useful.

Of more significance to the surgeon is the fact that neither his training nor his duties fit him to investigate many of the basic problems of function, whether the function be normal or pathological. The medical curriculum of the surgeon does not provide him with a course in logic, so that he cannot indisputably write *quod erat demonstrandum* at the end of many of his theorems. He cannot be expected to master the minutiæ of biophysical and biochemical methods, so that in many cases he is unable to start his researches at the beginning. Most of all, perhaps, he is haunted by the thought that what may work out well enough in the test-tube, or in the experimental animal, may be fraught with danger for his patient. In my view, too much emphasis has been placed on the last possibility, for the sum of benefits derived from the application to mankind of observations made on animals has far exceeded the harm.

Specialisation

One result of the many additions to the craft of surgery has been the creation of surgical specialists. By restricting his work to it, a surgeon may hope to round out his knowledge of a special subject on a biological basis. One obvious danger in such an arrangement is that of too early specialisation, so that the surgeon suffers from a loss of perspective; my own view is that a young surgeon's angle of incidence upon his specialty should be a very obtuse one, and fortunately in this country that is likely to be the case. Another defect in early specialisation lies in a lack of any arrangement providing that restriction of practice to a given subject automatically implies proficiency in it. On the other hand, specialism has two undoubted advantages. One of these is the intellectual satisfaction derived from comprehensive knowledge of a given subject, an aspect of the matter on which the elder Kocher was insistent. The other is the undoubted gain to the patient, whose malady is cared for by a surgeon familiar with all its peculiarities. It has been my experience that specialists who have risen high in the profession, and who have gained and retained the respect of their fellow practitioners, are the most conservative of surgeons, and most unlikely to allow themselves to be unduly influenced by their special knowledge. One other point; we are at a professional cross-roads in this country as regards specialisation. I would like to urge that the planes of cleavage between specialties should be vertical, and not (as there is some tendency to make them) horizontal. I mean by this, that for purposes of specialism the body should be divided into a series of functional units, rather than into a series of systemic units. Under the latter system there would be a perpetual necessity for the correlation and interlocking of separate specialties. Under the former, not only would the surgeon be trained to treat not a particular pathological condition, but the patient; he would also be infinitely better equipped to contribute his bounden quota to the progress of hominal physiology. And if surgical specialties there must be, and so dividing walls, we must make it our business to see that the walls are low, so that each specialist has an unhampered view of the work of his fellows, and we must arrange that the paths converge at frequent intervals into clearings, where all surgical lore becomes common property. So much

for specialism in relation to craft; it must be remembered that an at least equally important aspect of the matter concerns the patient as an individual. In assessing the influence of this aspect no craftsman-specialist can hope to approach the authoritative position occupied by the patient's family physician.

The Puzzle or the Quest

With so many tests for this and that at his disposal, there is a temptation for the student to regard clinical work—and that is the supremely important part of a surgeon's training—as an exercise in the solution of so many puzzles, which require for their solving only the placing of each report in its proper setting. I mention this tendency only to urge that it be resisted. It is true that no avenue of approach to a clinical problem should be neglected that provides a possible additional factor of accuracy in diagnosis and thus of safety for the patient. Sometimes the result of a particular test may be irrefutable but it is, I think, usual to find that when a doubt remains after the clinical examination has been completed and the results of tests are available, the view of the trained clinician proves to be correct. If a struggle must be joined with the temptation to rely overmuch on laboratory tests, the most powerful ally that can be called to one's aid is clinical imagination. Each problem must be investigated afresh, and not dismissed as identical with a former one. Even if the surgical problems seem similar, the personal problems most assuredly differ one from the other, and it is only by the maintenance of an unprejudiced mind that the various features of a case can be honestly appraised and those of significance selected. If this method be pursued, the study of a surgical problem, whether complex or apparently simple, becomes not so much a matter of deciding upon a diagnosis or upon some particular form of treatment, as an adventure in both hominal physiology and hominal psychology; and as such it must be approached with reverent determination. Great as have been the advances, much remains to be accomplished in this field, and each of us, whether student of surgery or teacher, must take up his appointed place in an expeditionary quest which will occupy the whole of his professional life.

Preventive Surgery

One other modern movement influences present surgical education. I refer to the rapid expansion of preventive medicine, which encourages the surgeon to devise measures for the prevention of conditions, to the relief of which he formerly devoted his operative ingenuity. In other words, to the surgeon's responsibility for the life, or the comfort, or the economic efficiency of his fellow men, is being added responsibility for his health. As to this, no one has put the obligation better than Montaigne, himself far from a friend to the profession. "Health is a very precious jewele, and the onely thing, that in pursuite of it deserveth, a man should not onely employ, time, labour, sweate and goods, but also life to get it; forasmuch as without it, life becometh injurious unto us." And let me add that by assuming responsibility for the health of individuals, a surgeon takes his share of a greater responsibility, that for the health of the nation.

Thus my final point has concerned this movement to eliminate the need for some of the activities of the surgeon, a movement sensed by Hunter's prophetic soul. And I may fittingly close this address by declaring the faith that is in me; that a century and a half of surgical endeavour has been directed to removing any grounds for his stricture—not yet a completed task, but one which surgeons are proud to think has never lacked continuity. To fit ourselves for this task is an inescapable duty, yet one which is in prospect alluring, and in execution entrancing.

THE ACTIVATION OF INSULIN

By H. P. Himsworth, M.D., M.R.C.P. Lond.

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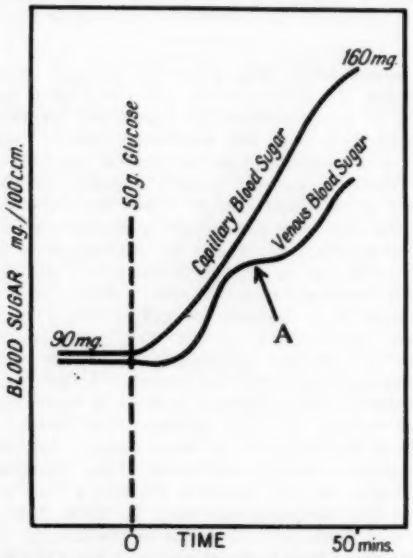
The observation that a certain amount of insulin will ensure the retention in the body of a definite amount of carbohydrate is based on experiments with depancreatised, but otherwise normal, animals. But it is a commonplace of clinical medicine that in the diabetic patient insulin appears to vary in efficiency at different times. Thus the supervention of an infection may necessitate a temporary increase in the proportion of insulin to carbohydrate in the diet and the curing of the intercurrent illness may permit a corresponding decrease. Again, it is often found that if a diabetic is taking three meals of identical composition in the day, more insulin is required to prevent glycosuria after the morning meal than after either of the others. A rarer example of this decrease in efficiency is seen in those cases of diabetes which become resistant to insulin even when it is administered in huge doses. Indeed, the now common clinical observation that provided the caloric value of the balanced diabetic's diet is kept constant the carbohydrate may be trebled or quadrupled with little or no increase in the insulin dosage is a clear proof that in the diabetic at least the physiological concept of the glucose equivalent of insulin is not in harmony with clinical observation. A consideration of these and similar observations suggested that the question of variation in insulin activity required deeper analysis.

The problem was first approached through experiments on normal subjects. Results were obtained which proved that by altering the composition of the diet the efficiency of insulin in depressing the blood-sugar could be varied at will, and it was also demonstrated in the same experiments that there was a definite latent period after injection during which the insulin exerted no measurable action. In conjunction with these findings simultaneous blood-sugar curves in arterial and venous blood were performed under the same conditions and in them the phenomenon shown in the diagram was demonstrated. Earlier workers had shown that the degree of difference in sugar content of arterial and venous blood depended upon the amount of insulin present in the body. The sudden increase in the arterio-venous sugar difference at A must, therefore, mean an increase in the concentration of active insulin in the tissues at that point. There are two alternative possibilities. The first, that pancreatic insulin is suddenly secreted at the point A; the second that insulin is being continuously secreted by the pancreas in accordance with variations of blood-sugar. If the first possibility is correct then insulin as secreted by the pancreas is an active substance; if the second alternative holds, then insulin must have continued to be secreted by the pancreas the whole time since glucose was administered and have required the time between the ingestion of sugar and the development of A to acquire

detectable activity. From various considerations we have come to the conclusion that insulin is secreted continuously and the time up to point A must represent the time taken for it to develop demonstrable activity. This reaction of activation must develop with increasing velocity and the analogous reaction of the activation of trypsinogen by enterokinase immediately suggests itself. Support is lent to the above interpretation of A by the observation that the interval before it occurred varied in accordance with the capacity of injected insulin to depress the blood-sugar. It was concluded from these results that insulin as we know



Simultaneous blood-sugar curves in arterial and venous blood after administration of 50 g. glucose to a normal subject.

it and as it is secreted by the pancreas is an inactive material which requires activating by some unknown substance for which we tentatively propose the name of insulin kinase.

This theory throws light upon many hitherto inexplicable findings. Markowitz, Mann, and Bollmann [1] have shown that immediately after removing the liver from a dog insulin exerts its usual activity, but that several hours or more later large doses of insulin may exert no action on the blood-sugar. They suggest that the action of insulin on carbohydrate in the intact animal required some third factor. Althausen and Thoenes [2] have published results showing that in animals, during the stage of liver necrosis and fatty degeneration which follows poisoning with chloroform, there is a subnormal tolerance to a combined test of insulin and oral glucose; but that during the stage of liver regeneration, when the organ is full of young cells, there is a supernormal tolerance to the test. Reported cases of insulin-resistant diabetes are now numerous and in practically every one an abnormal state of the liver is recorded and some of the clearest cases have been those arising after thrombosis of the hepatic artery. In a case seen personally the progression of resistance was actually observed, a post-mortem was performed one hour and a quarter after death, gross liver damage was found, but the pancreas was macroscopically normal; microscopically no evidence of hydropic degeneration of the islet cells was found and granules were demonstrable in these cells by Bensley's stain.

From a consideration of these findings and our results the suggestion is put forward that insulin-kinase is produced in the liver. This obviously opens up many new possibilities in the pathology of diabetes. The question arises to what extent disease of the liver and the presence or absence of this new factor plays a part in the production of diabetes mellitus. Are there cases of diabetes which are due to disease of the liver and not to disease of the pancreas? Feeding with fat has been found to limit the production of insulin-kinase; does this throw light upon the ætiological relationship of obesity to diabetes? Is the syndrome of abdominal pain, vomiting, and rapid descent into coma with temporary insensitivity to insulin, which supervenes, apparently fortuitously, in balanced diabetics, due to impairment of liver function? And most important of all, can a substance be prepared from the liver which will remedy those conditions in which insulin-kinase appears to be deficient?

The details of the physiological results on normal subjects which have led to the formulation of this hypothesis are now being prepared for publication elsewhere. Work is proceeding on the various pathological questions that arise in the application of the theory to the analysis of diabetes, but evidence from clinical experience cannot soon be collected by one individual with conclusive certainty. This preliminary communication is therefore made in order to interest others in the attempt to regard diabetes and its problems from a new viewpoint.

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OBSERVATIONS ON THROMBO-PHLEBITIS MIGRANS

WITH NOTES OF A CASE

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The type of thrombo-phlebitis first described in 1928 by Moorhead and Abrahamson [1] as thrombo-phlebitis migrans differs from other forms of "wandering" phlebitis in its extensive distribution and in the involvement of peripheral and visceral veins. The disease usually commences in either the superficial or deep peripheral veins with symptoms of inflammation, but later the veins of the lungs, abdomen, or more rarely, of the heart and brain, may be affected. Each fresh development is accompanied with fever and a moderate leucocytosis. The course, though prolonged, is relatively benign and the ætiology obscure.

Moorhead and Abrahamson described four cases, and Ryle [2] in 1930 recorded five, whilst others have been reported from time to time. A summary of these is given in the accompanying Table.

NOTES OF A CASE

A man, aged 47, was referred to the Royal Infirmary by Dr. A. Simpson, of Hawick, with the following history:—

In December, 1931, the patient complained of intense frontal headache and had a slight temperature. No sinus trouble could be detected. The pain gradually decreased in intensity and he was able to resume work in 14 days. After two weeks at work he was again confined to bed, this time complaining of intense pain in the left side of the chest.

SUMMARY OF CASES OF THROMBO-PHLEBITIS MIGRANS REPORTED BY VARIOUS AUTHORS

Author.	Case	Sex.	Age.	Site of primary phlebitis.	Later sites of phlebitis (in sequence).	Ætiological factors.	Duration of illness.	Laboratory data.
Moorhead and Abrahamson	1	F.	55	L. arm.	L. arm, both lungs, abdomen, L. leg, R. leg, face.	—	1 year.	Blood culture negative.
,,	2	M.	62	R. leg.	R. leg, L. leg, R. leg, L. lung, heart, R. lung, abdomen.	—	6 mths.	Blood culture, W.R. both negative. Complete X ray exam. negative.
,,	3	F.	50	L. foot.	L. leg, thigh (several attacks), R. hand, L. hand, ? lung, L. arm, R. knee.	Marked pyorrhœa.	2 years.	Blood culture negative. *S. viridans* from teeth.
,,	4	F.	22	L. leg.	R. leg, sup. veins, abdomen and trunk, R. knee.	—	2 years.	Cultures from section of vein negative.
Ryle.	5	M.	23	R. leg.	R. and L. leg, R. foot.	Septic roots.	3 years.	W.R. negative. Diff. blood count and clotting time normal.
,,	6	M.	58	R. leg.	L. lung, R. leg, and abdomen.	—	4 mths.	Pleural effusion; R.B.C.'s, lymphocytes and polymorphs in about equal proportions.
,,	7	M.	Middle age.	L. knee.	L. lung, R. foot, L. leg and foot (5 attacks).	Dental sepsis. Antrum and frontal sinus.	6 weeks.	Blood culture negative. *S. viridans* from sputum.
,,	8	F.	53	L. leg.	Both lungs, L. leg, R. leg.	Tonsils unhealthy.	5 years.	Friedländer's bacillus and strept. and pneumococci from sputum.
,,	9	M.	49	Abdomen.	L. lung, R. lung.	—	4 mths.	Blood culture negative. Pleural fluid sterile. Widal negative.
Low and Cook.[5]	10	M.	22	R. leg.	L. thigh, L. foot, R. arm.	—	4 mths.	—
,,	11	M.	26	L. leg.	R. leg, ? abdomen.	Septic teeth.	4 mths.	W.R. negative. X ray abdomen, pelvis and thigh, negative.
Collier.[6]	12	M.	53	Spermatic vein.	R. lung, L. leg, R. leg, L. arm, R. arm, L. lung, abdomen.	—	—	Widal, negative.
Ellison.[7]	13	M.	6	L. leg.	Abdominal wall and side of chest, ? L. lung, R. leg.	Scarlet fever and infected mastoid.	6 weeks.	Hæmolytic strept. isolated from antrum.
,,	14	M.	10½	L. leg.	R. leg.	Scarlet fever.	5 weeks.	—
Barber.[8]	15	F.	37	Brain.	? Abdomen, R. thigh, L. thigh, R. arm.	Septic erosion in cervix uteri.	2 years.	W.R. neg.; bleeding time 1½ min. Coagulation time 3½ min. Blood Ca. 12 mg. per 100 c.cm.*

* Test-meal normal. X ray examination for focal sepsis negative.

Pleurodynia was diagnosed at the time, there being no signs of involvement of either lung or pleura. As this was dying down, the patient developed similar intense pain in the calf of the left leg. Fomentations and opiates did not afford much relief. The pain was due to a phlebitis and after three weeks the symptoms and signs were sufficiently improved, and he began to move about again. The usual swelling took place and was very persistent. Gentle massage was commenced, but on Feb. 16th, 1932, the patient developed "definite signs of embolus" in the right side of the chest, just below and outside the nipple. In spite of two or three weeks in bed, during which the chest condition gradually cleared up, the swelling of the left leg remained.

On April 6th he was admitted for observation to the medical wards under the care of Dr. John D. Comrie as a case of multiple thrombo-phlebitis. His further history was uneventful until on April 16th, when in spite of absolute rest and elevation of left leg, he complained of acute pain on left side of chest with rapid respirations, increased pulse-rate, and slight temperature. Physical examination revealed an area of dullness posteriorly over the left lung base with diminished vocal resonance almost absent to breath sounds and definite pleuritic friction towards the axilla. The typical frothy blood-stained sputum of pulmonary infarction was coughed up. A hypodermic of gr. ¼ morphia plus gr. 1/100 atropine did not ease the pain appreciably, and on the following day a second similar injection was found necessary. Gradually the patient's condition improved, but on May 2nd he became very depressed and insisted on returning home. He was therefore discharged a few days later.

Previous History.—Operation for deviated septum some years ago, otherwise no illnesses.

State on Examination (April 6th).—A stout florid man. Height 5 ft. 9½ in. Weight 13 st. 1 lb. Swelling of left leg. Nervous system (report by Dr. E. H. Cameron): "Normal fundi and full vision. Right pupil rather larger than the left and neither reacts to light to any extent. The left reacts a little but the right not at all. Both pupils react to some extent on convergence." Knee-jerks elicited with difficulty. Apart from this nothing abnormal was found in the nervous system. The respiratory signs have been described above, and no other signs of disease were noted apart from the swelling of the left leg.

Laboratory Investigations.—Wassermann test negative. Blood-sugar 125 mg. per 100 c.cm. Urea nitrogen 13 mg. per 100 c.cm. Cerebro-spinal fluid: Wassermann test negative; cells 1 per c.mm.; colloidal gold 0001000000. Blood culture: growth of *B. alkaligenes* obtained.

Radiography (April 8th): Elevation and limitation of movement of left dome of diaphragm and adhesions of outer margin to parietal pleura. In the middle zone of the right lung field there is an area of obscurity associated with honeycombing suggesting existence of bronchiectatic dilatation at this point. Similar appearance towards base of left lung (Dr. D. White). April 30th: Pleurisy left side with effusion. There appears to be deviation of heart towards left side. ? Fibrosis at bases. An X ray examination for possible foci of sepsis was negative.

DISCUSSION

A glance at the Table shows that thrombo-phlebitis migrans usually commences in the peripheral veins of the upper or lower extremities, small sections of the superficial veins being generally first affected. In Case 9, however, the initial symptoms were due to phlebitis of the mesenteric veins, in Case 12 to phlebitis of the spermatic veins, and in Case 15 the first symptoms suggested venous cerebral thrombosis. The disease affects males and females of all ages, but is more liable to attack those in middle age. Of visceral lesions, pulmonary are the most frequent and both lungs may be affected at different times or repeated thromboses may occur in the same lung. Peripheral venous inflammation may occur without involvement of viscera, but in Case 9 visceral lesions only occur.

The case reported above presents the following

features. Severe and persistent headache with malaise and pyrexia suggesting venous cerebral thrombosis (see Case 15) and later thrombo-phlebitis of left lung, left leg, right lung, and left lung again, in the order mentioned. The symptoms and signs in the right lung may, however, have been due to an embolus dislodged from left leg by too vigorous massage.

Campbell and Morgan [3] report an unusual case of multiple thrombosis in which the evidence suggests thrombosis affecting the posterior cerebral arteries. Coombs [4] describes a case and mentions others in which there is reason to suspect coronary thrombosis. These though similar in many respects to the cases described by Moorhead and Abrahamson [1] differ in that the arterial tree is also affected by the disease process, and are therefore not included in the Table.

The ætiology is still obscure. It has been sought to associate the condition with influenza, but in no case was a history of such infection obtained. It is more likely that those cases of thrombo-phlebitis migrans with initial symptoms of cerebral thrombosis are, in the early stages, diagnosed as influenza in error. The severity and persistence of the head pain in thrombo-phlebitis migrans is of help in making a differential diagnosis.

In Cases 5, 7, 8, 11, and 15 (?) there was reason to suspect the influence of chronic streptococcal focal sepsis, but in the others no evidence to support such a theory was obtained. No specific organism has been isolated, and blood cultures have been consistently negative. There were never signs of septicæmia, and Ryle concludes therefore that "if focal infection is to be regarded as of ætiological importance, the phlebitis must be due to a bacteriæmia rather than a true septicæmia." Cases 13 and 14 followed shortly upon an attack of scarlet fever, but both are atypical in that the thrombo-phlebitis affecting both legs was very extensive, spreading upwards over the abdominal wall and chest. It is questionable whether these two cases, interesting and unusual as they are, ought really to be described as thrombo-phlebitis migrans.

Syphilis also is evidently not a factor. In the above case the ocular phenomena, though not conforming to true Argyll Robertson pupils, suggested the presence of syphilitic infection, but the laboratory findings were all negative.

It is possible that the main ætiological factor is the "soil"—i.e., the condition of the patient—the disease depending on some obscure alteration in the chemico-physical composition of the venous blood (McDonagh [9]).

I have to thank Dr. Comrie for permission to publish the notes of the case.

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DARLINGTON HOSPITAL CHILDREN'S WING.—By the efforts of the Darlington Rotarians, spread over the last two years, a children's wing, which has cost £12,000, has been added to Darlington Memorial Hospital.

THROMBO-PHLEBITIS MIGRANS

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Thrombo-phlebitis migrans is characterised by a thrombo-phlebitis occurring without any pre-existing affection of the veins, without any gross cause, and presenting a tendency to reappear in various situations. It particularly involves the superficial veins of the extremities, but not infrequently there are associated thromboses of veins of the internal viscera. By no means a rarity, it nevertheless seems to be a relatively uncommon affection. The fact of venous thrombosis developing in relation to acute infective and debilitating conditions is too well established to justify any special consideration. The interest of thrombo-phlebitis migrans lies in the peculiar migratory tendency of the recurrent clottings, in the prolonged period over which such clottings occur and the absence of any causative factor. Though the prognosis has been regarded by most writers as uniformly favourable, this is not so. Lipschitz [1] records one fatal case, and in the small series about to be described there was also a fatal issue. Apart, however, from any question of danger to life, thrombo-phlebitis migrans may involve a prolonged period of incapacity and suffering. It is, therefore, worthy of consideration especially from the point of view of possible treatment.

Moorhead and Abrahamson [2] described several cases, and a further series has been published by Ryle.[2] Carmichael Low and Cook [4] also described two cases occurring in Asiatics. Both cases had a history of dysentery and gonorrhœa, but no causal relationship is claimed or suggested by these authors.

So far as the general clinical features of the condition are concerned these are well summed up by Harkavy [5] as follows:—

1. A tendency to involve superficial veins especially of the upper and lower extremities.
2. A decidedly segmental distribution with healthy vein intervening.
3. A progressive spread which is usually accompanied by moderate fever.
4. A lesion having the appearance of an erythematous, fusiform, nodular mass, sensitive to touch; œdema may, or may not, occur.

There is, however, here no mention of thromboses of veins of the internal viscera upon which Moorhead and Abrahamson, and Ryle rightly lay much emphasis. This last author also quotes cases of similar visceral phlebitis described by Campbell and Morgan,[3] and Coombs.[7] A further point of interest is the association of thrombo-phlebitis migrans with thrombo-angiitis obliterans, as recorded by Buerger [8] and many others.

As has been already indicated, the ætiology of this peculiar wandering thrombo-phlebitis is still obscure. Cases occurring in relationship to syphilis, tuberculosis, and gout are described, and references to these are given by Moorhead and Abrahamson, but in the type of case here under discussion no definite causative factor has been adduced. The general features suggest a bacterial cause, presumably blood-borne from some cryptic focus. This is the view put forward by Vaquez and Laconte,[9] and others. Naturally, if this be so, as Ryle points out, the process must be one of bacteriæmia and not septicæmia, in view of the long duration of the illness and the almost

invariable recovery. The fact that in no case has a positive blood culture been obtained does not minimise the probable correctness of the suggested mechanism. In a low-grade periodic bacteriæmia culture of the blood is, of necessity, speculative, and could only reasonably be expected to prove positive if it were possible to obtain the blood either immediately prior to or at the exact point of onset of an area of phlebitis. Equally, as any infective factor concerned must be of a low-grade virulence, one would not anticipate any definite leucocytic response. Unless and until it is possible to establish the cause of a thrombo-phlebitis migrans, treatment must, as Ryle frankly puts it, be merely "expectant and symptomatic." In a condition liable, at best, to a prolonged course, and not entirely devoid of risk to life, such a state of affairs is obviously unsatisfactory.

It has, therefore, been thought of value to publish the following cases: firstly, to add to the relatively small number hitherto described, thereby focusing attention upon an interesting clinical condition; secondly, as affording some support to the view of blood-borne infection as the probable cause. Finally, whilst realising to the full the undesirability of making dogmatic deductions as to the efficacy of any therapeutic measure on the basis of a few cases, nevertheless it would appear that certain procedures adopted in certain of these cases had a favourable influence.

CASE REPORTS

CASE 1.—A commercial traveller, aged 30, first seen Dec. 30th, 1927. In 1914 he had some affection of the right ankle-joint which was, for a time, thought to be tuberculous. This joint was ultimately operated upon but not proved to be tuberculous. Served in the army 1918 and 1919. In 1920 he had two attacks of phlebitis in the right calf. After a free period of a year had several recurring areas of phlebitis in the right leg. In 1925 he had several of the thickened areas removed. From this time onwards he had frequent recurrence of areas of phlebitis with "reddening of the skin" in both legs, but more particularly the right.

On examination in December, 1927, general physical examination was negative apart from some infection of the teeth. As part of a general investigation a careful cultural examination was made of nose, throat, urine, fæces, and sputum. There was a copious growth of hæmolytic streptococci from nose and throat. A vaccine was prepared from these organisms and a course of injections was given.

There had been no further recurrence of phlebitis when the patient was last seen in 1930, though some varicosity of the superficial veins had now developed, presumably secondary to repeated venous obstruction.

CASE 2.—Miss A., aged 49. Seen originally August 7th, 1929. During Whitweek in 1929 she started to have pain in the right leg from the knee to the groin, "there was a red ribbon up the leg." This gradually settled, but was followed by a severe pain under the right shoulder-blade with raised temperature but no hæmoptysis. This was diagnosed as pleurisy, though more probably a pulmonary phlebitis. The patient was then in a nursing-home for two months with recurring phlebitis. A full bacteriological examination was made and the blood was cultured. As the outcome of these examinations a vaccine was prepared and administered.

On examination on August 7th, 1929, no active phlebitis was found, but there was slight œdema of the left leg below the knee. As the condition appeared to be quiescent, no special treatment was undertaken. Two months later the patient was seen again. There had been recurring phlebitis of both legs, and at the time of this examination there was active change in the superficial veins of the right leg and enormous œdema of the left as high as Poupart's ligament. The bacteriological possibilities were once more explored without any suggestive result. Teeth and sinuses were, of course, radiographed.

Believing the condition to be of infective origin, and encouraged by the frequent success over a long period of trial of intravenous protein injections in some arthritic cases of probable infective origin, it was considered justifiable to try the same method in this case. Six injections of a *Bacillus coli* vaccine were given intravenously, diluted with saline solution, at intervals of five days, the dose being graduated so as to secure a good general reaction lasting about 10 hours.

The active phlebitis disappeared and no further clottings took place. All went well until March, 1931—a much longer period of freedom than any hitherto—when the patient was seized with severe headache, fever, aphasia and weakness, and incoördination of the right hand. The diagnosis of a cerebral thrombosis due to active phlebitis was made. This attack passed off in about three weeks, though a slight difficulty of speech remained.

In June, 1931, a further cerebral thrombosis occurred with rise of temperature to 102°. This, unfortunately, proved fatal.

Though clearly the condition was not cured, it does appear reasonable to suggest that the intravenous protein injections had a favourable, if temporary, influence on the course of the illness.

CASE 3.—Mr. B., aged 50. Seen in 1930. He had previously been perfectly healthy. Some time before being seen he had been involved in a motor accident, though he had not himself suffered any appreciable physical damage. About a month later he started with small patches of phlebitis in the superficial veins of both legs. This recurred with extreme frequency for two months or so prior to his being seen. No cause was found for it on physical examination, and it was decided to try a course of intravenous protein injections of *B. coli* vaccine. This was done; six doses were given. No further thrombo-phlebitis occurred, nor has there been further trouble.

CASE 4.—Mrs. C., aged about 30. Seen in 1930. This patient had a long gynæcological history with repeated operation but had achieved a successful labour, since when there had been recurring thrombo-phlebitis of the superficial veins of the upper extremities, particularly round the elbows. There was no clinical evidence of any active uterine or pelvic infection.

Bacteriological investigation was carried out and a pure culture of streptococci isolated from the cervix uteri. A vaccine was prepared and given in graduated doses. The phlebitis present settled down and there has been no further trouble.

It might be thought that the relationship to pregnancy and uterine infection does not fulfil the requirements of the condition under consideration, but the migratory features, the unusual involvement of the upper extremities, and the distant low-grade source of infection seem not only to justify inclusion of this case, but also to support the mechanism of causation of thrombo-phlebitis migrans suggested above.

CASE 5.—Mrs. D., aged 52. Seen May 29th, 1930. Has had recurring phlebitis in superficial veins of the legs since February, 1930. No injury or previous acute illness.

On examination patches of thrombosed veins on the inner aspect of both thighs. No evidence of varicose veins. Teeth infected but no other definite abnormality anywhere. This case was fully investigated as to blood count, blood culture, blood calcium, red cell sedimentation rate, coagulation time, &c., without any suggestive result. Full bacteriological investigation was also carried out; no deduction was made from this. The infected teeth were extracted, and as no further clotting had developed, the patient was allowed to go home two months later.

About a year afterwards she was readmitted to hospital with an obvious carcinoma of the stomach. No further phlebitis had occurred since the time of previous admission. No suggestion of possible carcinoma had then been present. In spite of the serious disease subsequently revealed, it seems more probable that dental infection was the cause of the phlebitis.

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CLINICAL AND LABORATORY NOTES

AN ANOMALY OF THE COLON

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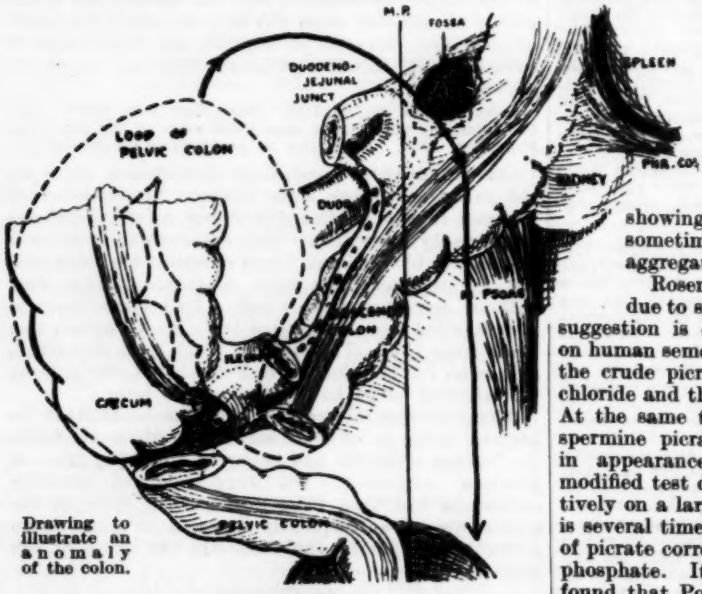
THE note by Dr. H. W. Benham on An Unusual Case of Volvulus, in THE LANCET of August 13th, prompts me to put on record another case involving gangrene of most of the small intestine and part of the large intestine which came under my notice in 1905. The case impressed me at the time not only because, so far as I could discover, it was unique, but also because it illustrated the practical importance of anomalies of the colon, of which I saw a number of striking illustrations in the course of my work in Egypt. Hence I prepared a careful report of the case, accompanied by a drawing to make clear the remarkable condition which I found. This was posted to England for publication, and I never heard any more of it.

During the summer of 1905, in the absence of the professor of pathology from Egypt, I was performing the post-mortems at the Kasr-el-Ainy Hospital. One evening in the club in Cairo I was struck by the appearance of one of the native Nubian servants who seemed to be desperately ill, and I suggested to the secretary of the club that the man should be sent off. The waiter replied that as he only had another half-hour of duty he would see it through.

On going to the post-mortem room at the hospital next morning I saw this man's corpse on the table, and found on examination a most remarkable state of affairs. He had an excessively long pelvic colon measuring 83 cm. in length, which was only 1 cm. less than the longest recorded case I was able to find at that time. The long loop of pelvic colon had slipped up the right side of the abdomen and then fallen to the left over the root of the mesentery. It was sufficiently long to pass down the left side of the abdomen into the pelvis. This heavy loop of colon, dragging on the mesentery, had led to the strangulation of the blood-vessels in the mesentery, causing gangrene of the greater part of the small intestine below the duodeno-jejunal junction, and it had also compressed the blood-vessels supplying the pelvic colon itself, so that it also was in a gangrenous condition.



Drawing to illustrate an anomaly of the colon.

Having lost the original drawing of this condition, perhaps I may reproduce here, for the purpose of elucidating the causation of the gangrene, a drawing of a peculiar anomaly of the colon which was found by two of my students three years afterwards, and published in the *Journal of Anatomy and Physiology* in 1909. Although in this second case the position of the pelvic colon was quite abnormal, it illustrates how it moved up on the right side of the abdomen to reach the level of the duodeno-jejunal junction. In this drawing I have inserted an arrow to indicate the subsequent course of the displacement which occurred in the fatal case to which I have referred.

A MODIFICATION OF BARBERIO'S TEST FOR HUMAN SEMINAL STAINS

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As originally described Barberio's test is performed by adding a saturated aqueous or alcoholic solution of picric acid to an aqueous extract of the seminal stain. After a few minutes the mixture is examined microscopically for the crystals which vary in size (5–20 μ) and shape; these crystals have been described as rhombic needles; as resembling Charcot-Leyden crystals; as ovoid or needle-shaped with rounded ends; as sharp-ended needles; as rhombic prisms often with a refrangent line at their equator; as crosses and stars; or even as small ovoid bodies showing Brownian movement. They are sometimes twinned, and also form drusy aggregates.[1 4 5]

Rosenheim [6] suggested that the crystals were due to spermine picrate. I have shown that this suggestion is correct by performing Barberio's test on human semen on a relatively large scale, separating the crude picrate and converting it into the hydrochloride and then into the characteristic phosphate.[2 3] At the same time the crystals are probably *impure* spermine picrate, first because they vary so much in appearance, and secondly because, when the modified test described below is carried out quantitatively on a larger scale, the weight of picrate crystals is several times greater than the theoretical quantity of picrate corresponding to the final yield of spermine phosphate. It is interesting to note that Barberio found that Poehl's spermine was the only substance that gave picrate crystals resembling those obtained from human semen. But he observed that after heating Poehl's spermine to 100° F. for one and a half hours no crystals were obtained with picric acid, whereas dried semen would stand a temperature of 150°F. (but not of 200°) for one hour and still give a positive reaction. In view of Rosenheim's observation that the commercial material sperminum Poehl

contained only traces of spermine, these experiments on the effect of heat are of no importance.

The obvious disadvantages of the test as originally described are that a search has to be made for crystals in a mass of amorphous precipitate of protein, and that the conditions for carrying out the reaction

Composite drawing under the microscope of crystals of impure spermine picrate obtained in modified Barberio's tests.

are not well defined. I believe that these disadvantages have largely been overcome in the modified method.

THE MODIFIED TEST

The seminal stain is extracted with trichloracetic acid which removes spermine and other substances, but leaves behind the proteins. The cleared extract is precipitated with picric acid, and the crude spermine picrate is crystallized under conditions determined by experiment. The details are as follows :—

A portion of the cloth about 1 × 1 cm. is cut out from the stain and pushed to the bottom of a tapered centrifuge tube; 1 c.cm. of 2·5 per cent. trichloracetic acid is added, and the tube is shaken at intervals. After standing for about one hour the tube is centrifuged, and the supernatant fluid is decanted. This fluid is generally clear, but may be slightly opalescent. An equal volume of a saturated aqueous solution of picric acid is added, when a precipitate forms if spermine is present. Certain other substances, however, may also give a precipitate (amorphous), so that the appearance of a precipitate does not necessarily mean that the reaction is positive. The mixture is placed in a boiling water-bath for a few minutes till solution is complete. The flame is turned out, and the tube is left to cool slowly in the bath. When cool the contents of the tube are centrifuged if necessary, and the precipitate is examined under the microscope. If crystals are observed the reaction is positive, but amorphous particles are of no significance. If a relatively *copious* precipitate is obtained which is amorphous, it may be due to the concentration of spermine picrate being relatively high. In that case the contents of the tube are diluted with one or more volumes of a mixture of equal parts of 2·5 per cent. trichloracetic acid and saturated picric acid (but *not* with water), heated and cooled as before. This, however, is rarely necessary if the test is carried out as described.

The yellow crystals vary considerably in size and shape. They may be acicular, either single or as crosses or in stars, or they may be lenticular, often with a refrangent line at their long axis, and resembling spermine phosphate crystals morphologically. Quite frequently these crystals have an irregular outline; there may be a single bulge at the centre, or the whole crystal may have a "feathery" appearance; they may be twinned. Some of the forms observed are illustrated in the Figure.

CONTROL TESTS

The reaction has been applied to cloth stained with the following substances: human whole blood, oxalated plasma, serum, urine, fæces, sputum, pus (staphylococcal, pneumococcal, and pus from a pancreatic cyst), and cow's milk. Some of the samples of pus gave a slight amorphous precipitate, but no crystals. All the other materials gave no precipitate and no crystals. The nasal discharge on used handkerchiefs also gave negative results, as did a solution of tribasic calcium phosphate in 2·5 per cent. trichloracetic acid.

DISCUSSION

I believe that in the past negative results may sometimes have been obtained with Barberio's test owing to ignorance of the fact that too concentrated an extract of a seminal stain may give an amorphous precipitate.

Obviously the time allowed for extraction of the stained cloth will influence the concentration of spermine in the final extract. This factor has been checked by putting up a known volume of semen, dried on linen, in 10 volumes of 2·5 per cent. trichloracetic acid, taking out one volume at different intervals of time and carrying out the prescribed test. At first (ten minutes to one hour) good crystals were obtained, but after one hour the precipitate was amorphous. When the tubes containing the amorphous precipitate were suitably diluted with a mixture of equal parts of 2·5 per cent. trichloracetic acid and saturated picric acid (dilution with water was unsuccessful), heated and cooled as before, a crystalline picrate was obtained.

Clearly, the quantity of semen in a seminal stain is unknown. Moreover, the type of cloth may influence the rate of extraction by the trichloracetic acid, and again the concentration of spermine in the semen of different individuals certainly varies. These and other factors cannot be controlled properly, but I am of the opinion that the modified test is a distinct improvement on the original test, and that it is likely to yield a higher percentage of positive results with true seminal stains. There must still be an element of doubt when dealing with an unknown stain as to whether a negative result can be regarded as reasonable proof of the absence of semen from that stain, but at the time of writing false positive and false negative results have not been encountered in examining stains of known origin.

I am indebted to the Medical Research Council for a grant towards the expenses of this work.

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CEREBELLAR SYNDROME AND NYSTAGMUS IN MIGRAINE

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A man who had always enjoyed good health began at the age of 28 to suffer from attacks of giddiness. At first these were mild, each lasting for perhaps not more than a minute; they recurred, however, several times a day. There might be no attacks for three or four days, but sometimes they would persist for several successive days. They gradually became

more frequent and longer in duration, and, about a month after the onset of the trouble, the giddiness became associated with headache setting in a few minutes after the vertigo was experienced. The clavus—a severe shooting pain—was habitually to the outer side of the right orbit and spread mainly upwards to the right frontal, and outwards and backwards to the right temporal regions. Occasionally, in very severe attacks, it would extend as far back as the right occipital region, but the left side of the head was never affected.

These attacks of hemicrania, especially when severe, were often accompanied by diplopia, and at the beginning of each attack other visual disturbances were almost constantly present, although variable in degree.

The fully developed teichopsia were spontaneously described by the patient as follows: "Blackness comes in from each side, yet I can read print. Looking up, a very bright light surrounded by darkness appears, and, after a few seconds, oscillates up and down. It disappears suddenly, the brightness in the centre becoming replaced by blackness, leaving a ring of light." A few seconds after the onset reading was impossible. On inquiry it appeared that nothing suggestive of castellation figures or of fortification spectra were observed, but black non-scintillating scotomata were frequently seen. In addition, "floating bubbles of light, dodging in and out," scintillating and appearing chiefly in the upper half of the visual field, were seen, not only during, but also, in bright daylight, between the attacks.

The attacks steadily increased in severity, lasting half an hour to several hours in the daytime, and, if unrelieved by the evening, only ceasing on going to bed. Six months after the onset of his symptoms he began to experience a feeling of falling forwards whenever he stooped, but he never actually fell. From the beginning of his illness he had frequently experienced trembling in his left leg, and now he began to have a feeling of stiffness in that limb, and later, cramp followed by weakness persisting for some weeks at a time. Although he could not recall anything which suggested a precise relationship between these attacks of weakness and the attacks of migraine, it would seem that they were of the nature of the hemiplegic or monoplegic periodic palsies which very occasionally occur in migraine.[1]

Nine months after the commencement, his symptoms had become so severe that he was obliged to give up work. No improvement occurred, and three months later he came under the care of the medical unit at Cardiff.

Usually he felt depressed for a day or so before an attack, markedly so before a very severe one, and in this way he became aware that an attack was impending. He fel sick during almost every attack but vomited on two occasions only, and then the headache was unusually severe; it is noteworthy that the headache was thereby relieved. The patient stated that the attacks were more frequent and more violent when he was tired or worried, or after he had been reading or taking beer. He found that all his symptoms were aggravated by the erect posture and relieved by lying down, and especially by sleep. He did not suffer from any disturbance of appetite or from any unusual constipation.

The above twelve months' history is one typical of migraine. The patient, although he had always been fairly healthy, was of a very nervous disposition, and tended to worry excessively over small matters. Slight deafness in both ears had followed several severe "colds" about six years before the onset of his migraine. For the two years preceding the beginning of the illness, his occupation had exposed him to considerable damp, and during this period the joints of the little finger of each hand became chronically swollen, painful, and stiff. In this connexion it is interesting to recall that an association between various joint conditions and migraine has frequently been pointed out. Gowers [2] stated that a family history of gout was rarely absent in the worst cases; Jones [3] found that migraine had, for years in some cases, been present before the appearance of rheumatoid arthritis, while Hughlings Jackson [4] called attention to the existence of a close connexion between migraine, chorea, and rheumatism, and particularly to its more frequent association with chorea rather than rheumatism without chorea, in that chorea indicates cerebral involvement.

On inquiring into the patient's family history, it was found that a maternal aunt was a sufferer from attacks of typical migraine, with hemicrania ending in vomiting, and relieved only by sleep. His mother, too, had suffered for many years from severe headaches, although not hemicranial, and not associated with nausea or vertigo. One sister had died of chorea.

The patient was found to be well-built, well-nourished, and mentally alert, with arteries a trifle thickened for his age, and a systolic blood pressure of 145 mm. Hg. The thoracic and abdominal viscera showed nothing of note, and his Wassermann reaction proved to be negative. The deep and superficial reflexes were all normal, and no sensory loss of any kind, superficial, deep, joint, or vibration, could be detected.

He stated that at times his left arm got easily tired and felt weak, but examination never detected any muscular weakness in either the arms or the legs. This again was possibly of the nature of the monoplegic attacks to which reference has already been made. During the attacks of migraine, walking was practically impossible. If he attempted to do so, he would hold his head with both hands, and, leaning forwards, would stagger about in an alarming fashion. Even standing was extremely difficult on account of the giddiness. Between the attacks, however, the gait was normal, no peculiarity of attitude persisted, there was no Rombergism, and no incoördination could be detected in the arms. There was no evidence of hypotonia, no dysdiadochokinesia, and no defects in speech.

Eye signs, however, were most conspicuous. The pupils were normal, but nystagmus was particularly prominent, very persistent, and obvious even on a casual glance at the patient. He himself was aware of the eye movements and remarked that he could "put up with the headaches and giddiness if only his eyes would keep still." The nystagmus was chiefly lateral, and consisted of quick fine jerks, rather more marked and rapid on looking to the left than to the right, and at times increased in rapidity until the movement became almost a tremor. There was neither blepharospasm nor intolerance of light. In the absence of headache the nystagmus was much less marked, and then was usually only evident on looking to the left.

In addition to the nystagmus, transient ophthalmoplegia was a feature of the case, and the duration of the individual palsy seemed to bear some relation to the severity of the migrainous attack which preceded it. When first seen there was definite weakness of the right external rectus, with diplopia on looking to the extreme right, and there was also diplopia on looking upwards to the left. A few days later these signs had disappeared, and for over a month there was no diplopia or obvious squint. One of the worst attacks the patient had ever experienced then set in and diplopia appeared in the lower half of the visual field, particularly on looking downwards. On looking to the extreme left, the right eye would rotate in an anti-clockwise direction through about 20° and a temporary squint resulted, suggesting possibly some paresis of the fourth cranial nerve. As this occurred the nystagmus seemed to be aggravated for a few seconds and showed some rotatory movements. The patient remarked that his eyes were always wobbling when he looked to the left. While he was under observation, several transient palsies of the right external rectus occurred, but no involvement of the left eye was ever noticed.

Ophthalmoplegia is a well-known if infrequent event in migraine, but the other features of the case are, of course, rare. The attacks were accompanied by signs which would appear to be of cerebellar origin. I know of only two comparable cases in the literature. Oppenheim [5] described a single case which came under his observation:—

"Each attack of migraine commenced with typical cerebellar symptoms. During the attack, standing and walking were very uncertain; the patient swayed like a drunken man, had severe vertigo, and a feeling as if his body or some portion of it were doubled up. The impairment of balance appeared and disappeared with each attack. The case might have been called 'hemicrania cerebellaris.'"

The other case, recorded by Siebert,[6] showed a complete cerebellar syndrome with nystagmus in a single attack of migraine.

His patient, a woman of 47, had suffered for many years up to the menopause at the age of 44, from severe attacks of typical ordinary migraine, unaccompanied by any cerebellar symptoms. Then during a single day after three

years of good health, a very severe isolated attack occurred, manifested by left-sided hemicrania, vertigo, ataxy on walking or standing but no incoördination on lying down, and nystagmus. The latter was very marked on looking to the right, and there was a tendency for the eyeballs to rotate on looking downwards and outwards. Three years later, when the case was reported, no evidence of organic disease had been discovered, there had been no further attack of migraine, no cerebellar symptoms, and the patient remained perfectly well.

The symptoms in the case now recorded were similar to, although much more persistent than, those of Siebert's patient. Cerebellar signs were present with each attack, and nystagmus was a specially noticeable feature. The proper assessment of the latter had to be considered very carefully in view of the fact that the patient had been a coal-miner for the preceding 14 years, working for the first four at the coal-face and the remaining ten as a haulier. As the result of very careful investigation, it was concluded that the nystagmus was not occupational. The classical features of miners' nystagmus include [7] delayed dark adaptation, movements of lights in the dark, headache and giddiness, blepharospasm and intolerance of light, together with nystagmus which is essentially rotatory. In the case under discussion the nystagmus was lateral, there was no blepharospasm or intolerance of light, and no failure in dark adaptation. In view of the importance and complexity of the case, it was thought wise to obtain the opinion of one with special knowledge of nystagmus in miners, and for this purpose Mr. Tudor Thomas, the ophthalmologist, was asked to examine the patient soon after he came under our care. He kindly gave the following report:—

"The fundi are normal; no definite diplopia to-day. There is nystagmus on looking to either side. The nystagmus consists of quick fine jerks, and is a little more marked on looking to the left side. At times the movement becomes much more rapid—like a tremor. No typical oscillations of the eyes as in miners' nystagmus found; none on stooping, nor after shaking the head, &c., nor after stooping. No intolerance of light. No blepharospasm. Therefore the diagnosis of miners' nystagmus cannot be made."

When first seen the patient was put on bromide of potassium. His general condition improved, and he became less nervous and worried, trembling disappeared from his left leg, but the actual migraine was very little affected. He was then put on the classical prescription: sodii brom. grs. 10, liq. strychn. ♏4, liq. trinitrini ♏1, acid. hydrobrom. dil. ♏10, aq. ad. ½ fl. oz., t.d.s., and within a month definite improvement was noted. Headache became much less severe, nystagmus disappeared almost entirely, being demonstrable only on looking to the left and then very slight, diplopia became very infrequent, and teichopsia appeared on only one or two occasions. When after four months of this treatment he was seen again, he felt well and was anxious to resume work. He had had several attacks of migraine in this period, but they were much less severe and frequent than before the commencement of the treatment. Nine months after this he had been free from attacks except for two weeks following a period of a month without the medicine, nystagmus had disappeared, and there was no evidence of ocular paresis.

I have to thank the director of the medical unit, Prof. A. M. Kennedy, for much helpful discussion concerning this case.

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MEDICAL SOCIETIES

ROYAL SOCIETY OF MEDICINE

SECTION OF OBSTETRICS AND GYNÆCOLOGY

AT a meeting of this section on Oct. 21st, with Mr. J. P. HEDLEY in the chair, a discussion on the

Indications for and against Cæsarean Section

was opened by Dame LOUISE MCILROY. Cæsarean section, she said, was an artificial method of delivery much favoured by young surgeons and obstetricians. Pelvic contraction was the commonest indication for the operation, but in those cases where the degree of contraction was mild much could be learned from a trial labour. Many delivered themselves spontaneously. Trial labour had diminished the rate of Cæsarean sections, but it was not suitable for domestic practice. The dark horse of obstetrics was the case in which the pelvic brim was normal but the outlet contracted. By the time it had become apparent that spontaneous delivery could not occur it was too late to perform Cæsarean section. In asymmetrical pelvis trial labour was valuable; if the head entered the wide diameter of the pelvis normal delivery would occur, and if not, section could be performed. She also performed the operation in cases of breech with extended legs where attempts at version had failed, and in cases of persistent transverse presentation. Occipito-posterior presentations usually rotated spontaneously; but it was too late to perform section by the time it became apparent that rotation was not going to occur. In severe cases of ante-partum hæmorrhage where bleeding was concealed, Cæsarean section was possibly the only treatment, and certain cases of central placenta prævia were best treated in this way; shock to the mother from severe bleeding, and prematurity of the fœtus were contra-indications. Section could sometimes be performed for prolapse of the cord, but the operation must be carried out quickly if the child was to survive. Good results were obtained with patients suffering from heart disease by prolonged rest during pregnancy, and sedatives and anæsthesia during labour. Where labour was likely to be obstructed by a fibroid, Cæsarean section and myomectomy could be performed at term. She preferred to operate on ovarian cysts during pregnancy owing to danger of torsion of the pedicle. Eclampsia was only rarely an indication for section, but rigid cervix might require this treatment; amputation of the cervix sometimes left a scarred stump which failed to dilate at all. She asked whether the meeting considered a recent operation for prolapse a sufficient justification for performing Cæsarean section. She preferred to perform the operation after the onset of labour for three reasons: it was possible to be fairly certain that the child was not premature; if trial labour was employed spontaneous delivery might occur; the uterus contracted down and drained well afterwards. She had recently been using stovaine anæsthesia with success.

Mr. L. CARNAC RIVETT did not agree that the

optimum time for Cæsarean section was after the onset of labour, though he tried to perform it during the last week of pregnancy. He preferred to choose his own time in order that the patient might be properly prepared for operation. He had never cared to employ trial labour; it was quite unsuitable for private practice, and hospitals should be used to train the general practitioner in obstetric operations which he could undertake outside. Moreover, statistics showed that the longer the patient was in labour the greater were the risks of Cæsarean section. He considered that section was a greater strain than normal delivery in cases of heart disease. It was wise to wait until term before operating on cases of ovarian cyst, because 30 per cent. of cases operated on during pregnancy went into labour a few days afterwards. Torsion of the pedicle rarely occurred during pregnancy, though it was common during the puerperium. He thought Cæsarean section was indicated both in cases of rigid cervix and cases where extensive repair operations for prolapse had been carried out.

Mr. EVERARD WILLIAMS said that in about two-thirds of his series of cases Cæsarean section had been performed for disproportion. Nevertheless, he thought that cases of contraction at the brim were best treated by induction of labour. In a few cases trial labour was indicated; in a patient with flat pelvis, if there were no signs of advance two hours after rupture of the membranes he performed extra-peritoneal section through the lower uterine segment. Drainage of the uterus was more effective if the patient was in labour at the time of operation. In primigravidæ with heart lesions forceps delivery was desirable in order to avoid a long second stage. Stovaine anæsthesia was contra-indicated in these cases unless ephedrine was used to check the sudden fall of blood pressure. A recent investigation had shown that between the years 1923 and 1926, in England, Wales, and Scotland, 34 women with eclampsia had died after eliminative and sedative treatment and a further 36 had died within a few hours of delivery. Morphia had conducted them to the grave. He felt Cæsarean section had a place in the treatment of eclampsia where eliminative and sedative treatment was seen to be failing. Myomectomy should not be performed at the same time as section; the danger in myomectomy was from excessive bleeding, and at term the uterus was in its most highly vascular condition. It was high time that non-absorbable ligatures should be abandoned in favour of catgut for suture of the uterus.

Dr. W. S. RICHARDSON said that after performing Cæsarean section he always had a 6 lb. sandbag placed over the patient's abdomen, finding it helped to reduce shock. Trial labour should only be employed when there was good hope of it succeeding. A radiogram might help to demonstrate disproportion in a doubtful case. In his view eclampsia should be treated by operation; in all other surgical conditions an attempt was made to remove the cause, and the same principle ought to be followed in eclampsia. Rupture of a Cæsarean scar in the uterus only occurred when the wound had been badly sutured or where sepsis had produced a weak scar. He asked whether Dame Louise had had any experience of the use of amyl nitrite in cases where the uterus formed a contraction ring.

Pregnancy Complicated by Graves's Disease

The Chairman asked Mr. S. G. LUKER to describe a case of pregnancy complicated by exophthalmic goitre. In cases of the kind previously reported, Mr. Luker said, the effect of pregnancy on the disease was usually said to be unfavourable.

This patient, a woman of 29, who had been married for a year, consulted him in June, 1931, for vaginismus and sterility. Enlargement of the thyroid had begun nine months after marriage. Dilatation of the vagina was performed, and she went for a holiday to Switzerland, from which she returned with the classical symptoms of Graves's disease. She was treated with rest in the open air, and in February, 1932, was found to be pregnant; with continued rest her condition improved steadily and she was delivered in August of a live child weighing 4 lb. 10 oz. which she was able to suckle. Her pulse rose to 100 after delivery but fell to 80 next day and she made an uneventful recovery.

General discussion was resumed.

Mrs. F. IVENS-KNOWLES said that the incidence of pyrexia was increased to 50 per cent. in cases where Cæsarean section was performed more than 12 hours after the onset of labour, or in which there had been instrumental interference. Central and lateral placenta prævia were indications for section. In cases with heart disease she had found prolonged rest and forceps delivery to be successful. Rigid cervix was an indication for section; she had seen two cases in which the cervix was completely occluded as the result of previous sepsis.

Mr. WILLIAM GILLIATT described two cases in which pregnancy had had an unfavourable effect on patients with Graves's disease. He considered that a contraction ring in labour was an indication for Cæsarean section if morphia failed to cause relaxation. Another indication was albuminuria occurring in a patient with multiple pregnancy.

In reply Dame LOUISE MCILROY said that so far she had never used amyl nitrite for contraction ring. X rays were useful in confirming the diagnosis of the lie of the fœtus, but gave little help in determining the degree of disproportion.

SECTION OF NEUROLOGY

AT the first meeting of the session, on Oct. 20th, Dr. KINNIER WILSON introduced the President, Dr. RISIEN RUSSELL, who gave an address on

Forty Years in Neurology

He wished to recall, he said, points along the route which neurology had travelled in reaching its present position. But for the investigations of distinguished physiologists, including Sharpey-Schafer, Langley, Sherrington, and Adrian, many of the problems of neurology would remain unsolved. Sir James Crichton Browne once said that in the days of his first association with the Neurological Society there were no neurologists, but only physicians who treated nervous and mental disorders. The President had been interested to hear that they *treated* these disorders, and were not described as *diagnosing* and treating them. One of these earlier physicians, when going round the wards with his students, as he passed a bed allotted to a patient with a nervous malady, would say: "Gentlemen, a mixed case." Even physicians considered to have special knowledge of nervous disease were not too reliable. On one occasion when an operation was recommended for a woman with compression paraplegia the relatives asked to have the opinion of such a physician. He diagnosed hysteria, and the additional opinions of Dr. Hughlings Jackson and Sir William Gowers had to be sought to convince the relatives. At operation Sir Victor Horsley removed a spinal tumour with such success that the patient regained full use of her legs. Even house physicians were liable to make mistakes in those days. Sir William

Gowers, on finding the knee-jerk absent in a case in which the house physician had recorded it as normal, turned to his class and said: "Gentlemen, Mr. Jones has had the supreme distinction of eliciting this man's last knee-jerk." There could be no better monument to the memory of Hughlings Jackson, the father of English neurology, than the two volumes of his collected writings which we owed to Dr. James Taylor; Dr. Wilfred Harris was responsible for an accurate account of Dr. Jackson's life, and Mr. Leslie Paton for the Hughlings Jackson medal. Dr. W. S. Colman had had the idea of instituting the Hughlings Jackson lectures. Neurology also owed a debt to Sir William Gowers for the lucidity of his teaching, and for his book. James Ross made Manchester a centre of neurological teaching, and Byrom Bramwell, of Edinburgh, by his teaching and writings, clarified much that seemed complicated.

Little progress could have been made without the microscope and the staining agents evolved by chemists for the differentiation of nervous tissue. Marchi's method of staining claimed first place, but the method of Weigert and Pal must be given chief credit in this field. These staining processes played a large part in differentiating between spastic paraplegia, primary lateral sclerosis, and disseminated sclerosis. In those days Babinski's sign was unknown and the significance of absent abdominal reflexes was unsuspected. Mr. Marcus Gunn, by his observations on optic neuritis did much to establish a type of disseminated sclerosis which Dr. Thomas Buzzard had investigated, assisted by Dr. James Taylor and Dr. Russell himself. In those early days much attention was given to the differentiation of the myelopathies from the myopathies, and we owed much of our present knowledge to Dr. Charles Beevor. Howard Tooth had the distinction of establishing, simultaneously with Charcot and Marie, the peroneal type of muscular atrophy. Neurology also gained much from the work of Henry Head on spinal localisation. The use of X rays had claimed for cervical ribs some of the cases diagnosed as muscular atrophy and had been of inestimable value, in conjunction with lipiodol or air, in spinal and cerebral localisation. One of the most gratifying changes during the period under review was the advance in the treatment of syphilis, so that the nervous system no longer suffered its ravages so frequently. There were, however, maladies to be dealt with, such as encephalitis lethargica and myasthenia gravis, which had been unknown in the past.

Railway spine was seldom heard of to-day; attention was now directed to the functioning of the brain in patients with this class of traumatic neurosis. Slight structural damage might be sufficient to cause symptoms which were very real to the sufferer. Horsley, Macewen, Ballance, and Thorburn had placed the surgery of the nervous system on a sure foundation in this country. In the early days treatment based on faulty theories was sometimes ridiculous; for example, the removal of strips of skull in microcephaly, in order to allow the brain to expand. Another instance was the suspension treatment of tabes dorsalis and of other nervous affections. The President recalled that a paper he had read after studying, at Berlin, the encouraging results of antisyphilitic treatment in tabes, had been received with scepticism by the British Medical Association. With the injection of salvarsanised serum into the theca in cases of tabes results had become still more encouraging, but no lasting effect had been obtained in general paralysis of the insane until malaria treatment was introduced. Iodide of potassium was a standard remedy of the older physicians, and arsenic had a good reputation in the treatment of chorea. They were helpless, at that time, in the presence of acute poliomyelitis, but thanks to lumbar puncture and serum treatment the position was now very different. Dr. Russell had been present at one of the earliest attacks on the Gasserian ganglion in the treatment of tic douloureux, which proved to be a gory encounter in which the ganglion was severely wounded; this operation had advanced greatly since Krause introduced his method of approaching the ganglion. Dr. Wilfred Harris, however, had no intention of leaving these ganglions entirely to the surgeon, but preferred to prime them with alcohol and make them oblivious to pain.

A vote of thanks to the President was proposed by Dr. HARRIS and seconded by Dr. GORDON HOLMES.

ROYAL SOCIETY OF TROPICAL MEDICINE AND HYGIENE

THE opening meeting of the session, held at Manson House on Oct. 20th, with Dr. G. CARMICHAEL LOW, the President, in the chair, was devoted to papers and discussion on

Blackwater Fever

Dr. GEORGE GIGLIOLI described his epidemiological and ætiological studies of the disease in the interior of British Guiana. Immunity (or, conversely, susceptibility) played a great part, he said, in its epidemiology. The native population of the endemic areas presented a remarkable immunity to hæmoglobinuria, while the condition tended to affect recent immigrants, particularly Europeans. It was not a common disease, and seldom had any one observer the opportunity of studying many cases in a single locality.

Dr. Giglioli found it difficult to support the view held by many that the disease was a reaction to chronic infection and reinfection with *Plasmodium falciparum*, and that its epidemiology was governed by the distribution and endemic index of that parasite, and by the degree of susceptibility of the population. In many regions where subtertian malaria was endemic and severe, blackwater fever was practically unknown, such as the Roman Campagna and, according to Sinton, the Punjab. Demerara, where his observations had been made, had a population of 7500, of whom nearly 4000 were Negro, 1320 East Indian, and 1700 mixed races. In the years 1923–31 inclusive there were 12,502 cases of malaria and 63 of blackwater fever, many relapses of the latter being encountered. Thus, in spite of a very high incidence of malaria, blackwater fever was not a common condition. The evidence collected during the last nine years on the Demerara River tended to prove that the incidence of blackwater fever was related not to that of chronic malarial infection, but to recent malaria—i.e., blackwater fever occurred under the conditions which favoured the spread of a new malarial infection. Some regarded reinfection with *P. falciparum* as a factor in the ætiology of malarial hæmoglobinuria. If blackwater fever were the outcome of infection with ordinary malarial parasites—the conditions of immunity of the local population remaining unaltered—one would expect to see cases occurring more or less regularly during each malarial season, which was not the case. The immunity of the African native was at present regarded as having

been acquired through residence in the endemic area. There was no doubt that, particularly under African conditions, adults were more frequently affected by the disease than children. But on the Demerara Dr. Giglioli found that children were three times as liable to blackwater fever as adults, and the morbidity was highest in the first decade of life, and was low after the twentieth year.

The recurrence of blackwater fever in certain families and houses was a striking characteristic of the epidemiology of the disease in this region. Of 63 cases, 22 originated from only nine families. Yet no local conditions had been traced which might render these particular houses more unhealthy or more malarious than a hundred others in the same neighbourhood; nor were the families attacked those who were more seriously harassed by chronic malaria. Dr. Giglioli held that the recognition of a house infection leading to blackwater fever implied that certain strains of malarial parasites transmitted at the same time or in succession to different subjects had the property of repeatedly producing blackwater syndromes. He argued that the disease must therefore be regarded as specifically related to such strains of plasmodium as could be considered to be biological varieties of the commonly known parasites, especially the estivo-autumnal species, which he referred to as hæmolytic strains. In most cases of blackwater fever no parasites were found and no definite precipitating factor could be determined; in others, unusual exertion, exposure to rain or sun, or alcoholic excess seemed related to the onset. The mixed settled population showed the least degree of immunity, but also the lowest mortality. The race immunity of negroes was remarkable, but if a negro acquired the disease the issue was more likely to be fatal. The action of quinine as a precipitating factor in a black water fever attack had been observed by all who had made a wide study of the disease; some, indeed, had described blackwater fever as a toxic syndrome specifically related to quinine. Nocht and Kikuth had found experimentally that quinine in vivo favoured hæmolysis and hæmoglobinuria.

Dr. Giglioli's studies had led him to the following conclusions: (1) That blackwater fever was the direct result of infection with special hæmolytic strains or biological varieties of the plasmodium. (2) That the epidemiology of blackwater fever was governed by the geographical and local distribution of such strains and the degree of immunity of the population. (3) That immunity to blackwater fever presented the same characteristics as immunity to malaria. (4) In individuals infected with hæmolytic strains the onset of hæmoglobinuria could be determined by special virulence of the infecting strain, by the absence of immunity and impairment of general non-specific resistance, by contingent factors tending to break down the immunity, and by quinine.

CLINICAL ASPECTS OF LONDON CASES

Dr. P. H. MANSON-BAHR discussed the clinical aspects of some 20 cases of blackwater fever which had been under his care in London between 1919 and 1932; 16 of these were treated in the Hospital for Tropical Diseases. Only four of the cases occurred in women. In five the blackwater fever manifested itself while the patients were in bed being treated for subtertian malaria; it came "as a bolt from the blue," no previous blackwater stage having been ascertainable. In half the cases the attack began one to seven days after the arrival of the patients in this country; one, however, did not develop the disease until five and a half months after entering the country. The mortality-rate of this London series of cases was high, 40 per cent., the death-rate in the Central African colonies and dependencies being about 25 per cent. Two of the deaths were due to sequelæ, one to septicæmia, one to a boil on the nose while recovering from the blackwater fever, one to pneumonia, the other six to the hæmolysis of blackwater fever. The dramatic intensity of some of the cases was well illustrated by that of a lady who two days before attack arrived from Nigeria. She accompanied her husband to a theatre, and arriving back at her hotel at 11 P.M. felt well. Then she had a rigor, passed black water, was brought to hospital at 2 A.M. the next morning, and 12 hours later she was dead. Most of the cases came from West Africa, but some from Northern Rhodesia, Kenya, British Guiana, and Trinidad. The administration of quinine seemed to be definitely connected with the onset of blackwater fever. The disease was liable to occur in any patient infected with subtertian malaria after arrival in England, as long as the parasite remained active in his blood. Subtertian parasites were demonstrated in the blood of more than half of the London cases. A possible sequel of blackwater fever was cholelithiasis. As to treatment, Dr. Manson-Bahr recommended sodium bicarbonate intravenously with glucose, and blood transfusion.

Dr. N. HAMILTON FAIRLEY gave an account, jointly with Dr. R. J. BROMFIELD, of his laboratory studies made under a grant from the Colonial Office. They had demonstrated the presence of methæmoglobin and oxyhæmoglobin in the blood of subjects of blackwater fever, and said that the determination of the bilirubin and blood-urea was of value in prognosis. The cholesterol content of the blood was low, but when the kidneys were involved the quantity tended to rise. During the first 48 hours of the disease the blood pressure tended to be very low.

Dr. N. FLETCHER showed by means of microphotographs the necrosis in the centre of the liver nodules associated with this disease. He had found that Asiatics afflicted with the disease had a low mortality, and he held that alcohol was useful in treatment.

Sir SAMUEL CHRISTOPHERS did not agree with the importance placed on hæmolytic strains of malaria parasites in the ætiology of blackwater fever. He was convinced that there was a time factor in the causation of blackwater fever, and that length of residence was important. The disease could be acquired after only three months' residence, but ordinarily it was not experienced under two years. In the bodies of blackwater fever patients some change seemed to have been produced by the parasites.

THE QUESTION OF HÆMOGLOBINÆMIA

Prof. WARRINGTON YORKE considered it necessary to get to know more about the mechanism of this disease. Scarcely any worker on the subject had thoroughly investigated the question of hæmoglobinæmia; in this disease there was a small but definite degree of hæmoglobinuria. His own feeling was that the hæmolysis which occurred might be in the spleen and certain other organs which were rich in reticulum. Possibly some hæmoglobinæmia might be caused by proliferation of epithelium resulting from antecedent malaria. He did not think it reasonable to hope for improvement in treatment until more was known about the disease.

Dr. J. W. MCNEE said that in this disease we were concerned not with the activity of the reticulo-

endothelial system, but rather with the great rapidity with which hæmoglobin appeared in the urine. He had found surprisingly little change in the liver and spleen in some of the London cases which he had investigated. Cases of blackwater fever bore a strong clinical resemblance to those seen during the war, in which transfusion was carried out with incompatible blood. These latter cases had perfringens infection at the same time.

Dr. J. H. COOK spoke of the difficulty of getting sufficient fluid into these patients because of their almost incessant vomiting; beer seemed to be kept down well by a number of them. He agreed with Dr. Manson-Bahr on the efficacy of intravenous injection of sodium bicarbonate (grs. 150 to the pint of water) supplemented by glucose. It was most important to prevent the onset of a chill in these patients.

Dr. H. S. STANNUS also agreed, but called attention to the treatment of blackwater fever by native beer in Africa. British cases should be given good ale.

Dr. TOM JAYS described his own attacks of blackwater fever, in the first of which, when he was alone and before he graduated, he took grs. 8 of calomel and grs. 100 of quinine a day for four days, then diminished the dose. He realised the great importance of conserving the heart's energy.

MEDICAL SOCIETY OF LONDON

AT the meeting on Oct. 24th, with the President, Sir JOHN BROADBENT, in the chair, a discussion was held on

Fractures of the Lower Jaw

Mr. W. WARWICK JAMES said changed conditions of traffic on the roads had led to greater frequency of fractures of the lower jaw and to more severe lesions. Jaw injuries had thus acquired greater significance in civil practice, but most of our knowledge was derived from experience in the war. His remarks were based on the results of four years' work at the Third London General Hospital. The underlying principles of treatment of those cases differed according to whether the fracture was of the body, involving the teeth sockets, or of the bone beyond the tooth-bearing area. The two groups differed considerably; the fracture was usually compound in the first, but very rarely in the second group, and these fractures of the bone beyond the tooth-bearing area bore a close resemblance to fractures of other bones. In an edentulous patient the conditions were altered, as the body of an edentulous jaw was not easily fractured. In some special conditions associated with the atrophied mandible of old age—malignant growth, extensive necrosis, and tabes—only a small force sufficed to cause fracture, generally of the molar region. Most of the fractures of the mandible, both in military and civil cases, occurred in young adults whose teeth were present. In children fracture of the mandible was not common; when it occurred a fall was usually the cause. Fracture of the front of the mouth was usually at or near the site of the blow; a fracture at the back of the mouth was usually the result of an indirect force. Displacement of a simple fracture in the front of the mouth was often a direct result of the injury, but displacement through muscular action was a more important factor, especially in multiple fractures.

The severity of fractures varied from the simple type, with little displacement, to those with much comminution, or with loss of both hard and soft tissue. Of the possible complications, dislocation of the condyle could easily be overlooked, while fracture of the maxilla and other injuries might add considerably to the difficulties of treatment. The commonest sites of fracture were in the region of the canine tooth, in the molar region, and through the neck of the condyle; it was unusual for the neck of the condyle to escape in multiple fractures.

Diagnosis.—Displacement was usually obvious, as was also impairment of function. Hæmorrhage from the torn muco-periosteum could be seen, and ecchymosis in the floor of the mouth was a valuable sign, while X rays gave conclusive evidence. Fracture of the condyle was associated with displacement of the mandible to the side of the fracture. The most distressing symptom associated with fractured mandible was the pain on movement of the fragments; and in these cases the mouth was always open, with the saliva dribbling out, the head being held very rigid. Movement of the tongue caused pain, and hence the patient swallowed as little as possible, and mouth and pharynx became fouled by debris. Early in the war when these cases remained untreated for days they became septic and offensive, many deaths occurring through inability to cough and the onset of septic pneumonia.

Treatment must consist of cleaning up the mouth and removing the fragments in such a manner as not to cause pain. In fractures involving the alveolar process, carrying teeth, there was a continuity of living tissue throughout the mandible; it was a grave error to regard the teeth as separate entities like nails in a board, and to ignore them and their sockets. Usually the line of fracture was oblique, passing between two teeth, and it was always compound. Necrosis seldom occurred if the fragments were at once brought into fairly accurate apposition. Should suppuration occur in the soft tissues, drainage at the most dependent part would mostly prevent the necrosis from becoming extensive. Mr. James considered that removal of a tooth was justified only if it interfered with the restoration of the fragments, or caused acute intractable pain. A frequent site of necrosis was the socket from which a tooth had been removed; often it was found that teeth which at first were condemned as hopeless became, if left in the mouth, of considerable functional value. A compound fracture of the jaw was less serious than a compound fracture of other bones, possibly because of the constant washing of the wound by saliva. In neglected cases notwithstanding necrosis might be extensive, especially if much pain was present, because pain led to great restriction of tongue movements. Even fragments of bone should be retained and restored to the positions they normally occupied unless actually detached; the periosteum might be intact, and new bone might be formed by the osteoblasts present. An external incision at an early stage might do much to prevent destruction of tissues. The treatment of fractures of the mandible consisted of two stages: restoration of the fragments to their normal position, and the maintenance of them there. Pain must be relieved, and the related soft parts stitched up to maintain the correct line of the mouth while avoiding tension. Suppuration called for drainage through an external incision. The displacement might be so slight that a four-tail bandage might suffice, but a carefully adjusted simple splint was better. A general anæsthetic

should be given, and mostly the best result was obtained by wiring the teeth of the mandible to those of the maxilla, the muscles being then placed in a natural position of rest. A difficult complication was dislocation of the condyle, which might pass unrecognised. It was better to wait for radiograms before operating for this condition. Sometimes the rate of recovery was remarkable. Some patients were walking about in four or five days, and function was quite restored in eight weeks.

COMPLICATIONS

Sir HAROLD GILLIES said that the chief complications which might occur in fractured mandible were: non-union, mal-union, delayed union, loss of bone substance, the obliteration of the buccal sulcus, and facial deformities. A surgeon called to a case of fractured mandible should at once call in a dental surgeon. Sir Harold much preferred a cap splint to wiring; the former was rigid, kept the whole jaw together, and could be fixed without an anæsthetic. When one tooth was present in the middle of a fragment, a cap splint would hold it in excellent position. In cases of mal-union of the mandible in which the fragments had not been properly controlled, the surgeon should be bold enough to undo the mal-union and reunite the fragments in good position, with or without a bone graft. In many cases of deformity resulting from mal-union of a fractured jaw the appearance could be improved by a buccal inlay, especially when a piece of bone was missing from the middle of the jaw. Delayed union and non-union were the same in the mandible as in other bones; but it was necessary to point out that teeth should not be left in necrosed bone, and that the interposition of a foreign body, such as a plate or a wire, must be condemned. He wished to correct any impression that teeth which were in the line of fracture should be left; to leave a tooth which showed signs of absorption round the roots in the line of fracture was an invitation for further necrosis and more delay in union, even for non-union. If a jaw was much comminuted and pieces of bone could only be controlled by utilising a tooth—i.e., in the line of fracture—it should only be utilised for long enough to keep the bones in position. He regarded surgical wiring of a mandible as bad practice, and plates equally so. All pieces of loose bone and fragments between the ends of the bones should be removed, as well as any tooth. Cases in which there had been much loss of bone substance, leaving a space of more than half an inch, should be treated ab initio with the idea that a bone graft was necessary.

Mr. PERCIVAL COLE said that for the 1300 cases of fractured mandible, which had come under his care during the war, 738 more or less major operations were performed. He supported Sir Harold Gillies's advocacy of the cap splint as against the wiring of teeth. The indiscriminate extraction of teeth in these cases could not be defended, but to conserve an obviously useless tooth was not wise.

Mr. ZACHARY COPE insisted on the need for collaboration between surgeon and dentist in these cases. Diagnosis was not always easy, and after a fracture had been sustained in civil life—usually after a boxing bout—it was apt to be overlooked by the subject, who probably attended at hospital later with a swelling. During the war he had dealt successfully with large gaps by bone grafts, some almost 3 in. across. He preferred catgut to wire.

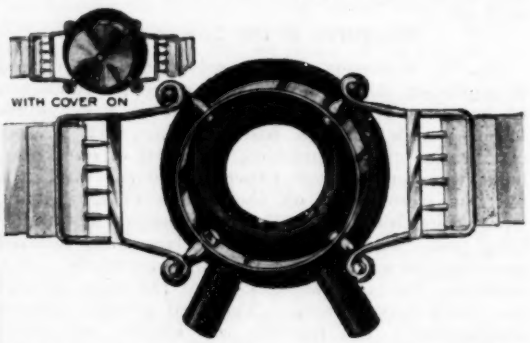
Mr. E. D. DAVIS said that in the early part of the war when a case of face or jaw injury came in, a huge dressing was applied and the patient was hurried to the base. Later that routine was abandoned, and the deformity was first reduced, the case cleaned up as well as possible, and an attempt made to put the fragments into good apposition. Absolutely rigid fixation was not necessary, for union occurred even if there was slight movement between the fragments; the fixation, however, must be sufficient to prevent displacement deformity. A few of the cases died suddenly, and were found to have fractured base.

Mr. A. H. MCINDOE said that in his experience fractures through the mental foramen were frequently associated with fractures through the opposite angle, and the latter could easily be missed. The four-tail bandage was an inefficient method of fixation. Sepsis alone did not cause delayed union, but sepsis in the presence of a foreign body was a very important factor. He agreed that the presence of roots of teeth in the fracture line was a potential source of chronic infection.

NEW INVENTIONS

SUPRAPUBIC DRAINAGE-BOX

SINCE introducing the sponge-rubber pad attachment for a Hamilton-Irvine suprapubic box, I have endeavoured to modify the apparatus so as to make it simpler and lighter. Mr. J. Alban Andrews has also been working with the same object in view, and I am indebted to him for some of the principles incorporated in the new apparatus. It consists of a round, instead of an oval, pad, which has the



advantage of lying in better apposition on the patient, especially in thin subjects. The rubber tubes are fitted with "D"-shaped metal linings giving a better surface for contact, and are more comfortable than the round type. The rubber flange is made of thicker rubber, and is placed at right angles to its position in the original pad. On the outer and inner surfaces of the flange are two metal rings, half an inch in height, kept in position by four bolts passing through the rubber flange, and are prolonged externally to act as hooks for the buckles attached to an elastic webbing belt which keeps the apparatus in position (see illustration). These buckles are made of metal and are easily kept clean. I have found the new apparatus to be an improvement on the old one, both as regards being more comfortable for the patient and also for keeping him dry.

The apparatus is made by Messrs. Arnold and Sons (John Bell and Croyden), 50–52, Wigmore-street, London, W.

FRANK HARVEY, F.R.C.S. Edin., M.R.C.S. Eng.

REVIEWS AND NOTICES OF BOOKS

Heart Disease

Principles of Diagnosis and Treatment. By CRIGHTON BRAMWELL, M.A., M.D., F.R.C.P., Assistant Physician to the Manchester Royal Infirmary; Consulting Physician for Women to the St. Mary's Hospitals, Manchester. London: Edward Arnold and Co. 1932. Pp. 244. 12*s.* 6*d.*

Dr. Crighton Bramwell has written a book which deals essentially with the cardiac problems met in the clinic, in the consulting room, and at the bedside. The work is based on a series of lectures forming part of a systematic course in medicine. These have been assembled into a consecutive story and although, as is stated in the preface, many aspects of the subject have not been included, all important general principles are considered. We are spared the orthodox introductory chapters on the anatomy and physiology of the cardiovascular system; the reader will be grateful that he does not have to wade through the formidable preliminary chapters which tradition seems to demand and which therefore can be found in most text-books on heart disease.

The book is divided into seven sections. The introduction deals with general principles, case-taking, imaginary heart disease, and the athlete's heart; the last-named chapter is of particular interest as it summarises the considerable literature which has grown up round this subject and includes the results of some personal observations made in 1928 on Olympic athletes at Amsterdam. The next section discusses heart failure; several pages are devoted to the chemistry of dyspnœa and cyanosis, an aspect of these conditions frequently neglected. Another important problem, whose discussion often falls between two stools, those being books on obstetrics and books on cardiology, is here fully discussed—viz., heart disease in pregnancy. Section III. on the cardiac mechanism will be welcomed by those who look on electrocardiography as a closed book; in the short space of 42 pages a clear description is given of rather more than the rudiments of what is well described as "the written language of the heart." Section IV. sets out the essentials of structural lesions. The few pages devoted to the technique of X ray examination of the heart are illustrated by some excellent radiograms. Section V. treats of cardiac intoxications, Section VI. of blood pressure and prognosis; this last includes an interesting section on anoxæmia and oxygen therapy, the different types of anoxæmia being considered from the aspect of whether or not they respond to the administration of oxygen. The subject matter throughout is illuminated with apt diagrams as well as with electrocardiographic records and radiograms. This book should be read by specialist and practitioner alike. That its size is small is due to the author's wise economy of words, and to his omission of unnecessary details.

It is a first-class work.

Medicine

Essentials for Practitioners and Students. By G. E. BEAUMONT, D.M., F.R.C.P., Physician with charge of Out-patients, Middlesex Hospital. London: J. and A. Churchill. 1932. Pp. 719. 21*s.*

Dr. G. E. Beaumont has had a wide experience of teaching, and has used it well in this new text-book of medicine. He has aimed at including only the essentials of medicine, having in mind the needs of students reading for examinations and of practitioners treating patients. He has succeeded in preparing a text-book which will satisfy both these groups, though the requirements differ widely. The effort which the writing of a text-book of medicine single-handed must involve has been repaid, for there is certainly a continuity and uniformity about this work that is often lacking in text-books by many authors. We have no hesitation in saying that Dr. Beaumont's book may well compare with most of its competitors, and at the remarkably low price of one guinea may be a successful rival.

The arrangement follows orthodox lines, and with the exception of psychology and dermatology the whole range of general medicine is included. The various diseases are dealt with concisely and for the most part adequately, and the space allotted to each condition is well-proportioned. The notes on treatment are sufficiently detailed to enable the practitioner to carry it out without reference to larger works; the repetition of phrases such as "any septic focus discovered should be adequately treated" may bore the student, but the practitioner should be grateful for a constant reminder of this important duty. The detailed diet sheets supplied should be of value; numerous prescriptions are to be found throughout the book. The index is usually good; we have submitted it to a searching test. But one criticism should be made—it is that medicine does not readily lend itself to a selection of essentials only. It happens too often in practice that the issue turns on an atypical symptom or an unusual sequela. Yet if we accept the principle that medicine can be presented at all adequately and in proper proportion when pruned of all extraneous matter we must admit that Dr. Beaumont has given here a good summary of medical knowledge and practice. The work is well printed and produced.

The Science and Practice of Surgery

Fourth edition. By W. H. C. ROMANIS, M.B., M.Ch. Cantab., F.R.C.S., F.R.S. Edin.; and P. H. MITCHINER, M.D., M.S. Lond., F.R.C.S. Vols. I. and II. London: J. and A. Churchill. Pp. 1762. 28*s.*

THIS book has established its place as a popular students' text-book. It has the great merit that it contains all that the undergraduate need know (and, indeed, much he need not concern himself with) in two reasonably sized volumes. This edition has been fully revised and many new illustrations have been added. Recent work on the spleen, sympathetic nervous system, rectum, parathyroids, varicose veins, burns, and blood transfusions have been incorporated.

The labour of writing a text-book on surgery is of such magnitude and in this case has been so fruitful that it is almost invidious to indicate places in which this book could be made even more useful. Speaking generally, the sections on minor surgery and on injuries to bones and joints are less satisfying than is the rest of the book. These sections give the impression that the authors have not observed very carefully the results of treatment, or they would not recommend such ineffective operations as they do for, say, ingrowing toe-nail and onychogryphosis. The difference between the prognosis after division of the dorsal and palmar tendons

of the fingers is not mentioned, nor the essentially different methods of suture required. The description of the treatment of fracture of the shaft of the femur is inadequate, and the statement that the operative approach to the femur from the outer side is relatively avascular can hardly be the fruit of experience. The femur is nowadays approached from the front by a path to which the term avascular is certainly more appropriate. The method of applying strapping to the legs of a child in the Bryant suspension method, depicted in Fig. 227, would almost certainly lead to pressure sores from slipping if the weight were enough to raise the buttocks. When the authors say that in fracture of the lower end of the humerus the results are extremely good they are surely referring only to children. The statement is misleading as it stands; no emphasis is laid on the importance of early mobilisation of such fractures in adults. The only operation for recurrent dislocation of the shoulder mentioned is that of Clairmont which because of its limited success has been superseded by the much simpler procedures of Hey Groves and Henderson. Such useless and obsolete methods as removal of the cervical sympathetic for Graves's disease, epilepsy, or glaucoma might now be omitted from text-books of surgery. The authors are too optimistic in suggesting that femoral peri-arterial sympathectomy will produce considerable benefit in senile gangrene, or that due to thrombo-angeitis obliterans.

In Vol. II. we can find no mention of the use of the indwelling ureteric catheter for the pyelitis of pregnancy in which it often produces such dramatic results, nor is the ketogenic diet method of treatment described. In the section on the treatment of intrapelvic abscess the omission of any mention of the rectal or vaginal incision for drainage is curious; the student is recommended instead to give hot vaginal or rectal douches on the score that this treatment will promote spontaneous rupture. The view here taught that most cases of duodenal ulcer require surgical treatment would be regarded by the majority of surgeons as too extreme.

The general excellence of the work unfortunately throws up into relief these places, where the high standard is not maintained. But we call attention to them because the book has won such deserved popularity that a new edition will soon be called for, and adjustments in the places indicated would enhance the value of the book for teachers.

Minor Surgery of the Urinary Tract

By HERMON C. BUMPUS, Jnr., Ph.B., M.D., M.S. in Urology, F.A.C.S., Section on Urology, Mayo Clinic; Associate Professor of Urology, Mayo Foundation. London: W. B. Saunders Co., Ltd. 1932. Pp. 124. 15*s*.

THIS book is not, as its name might suggest, a treatise on the simpler operations that a surgeon may be called upon to perform on the urinary tract, such as circumcision and operations for varicocele. It is a book on operative cystoscopy by a well-known authority and therefore a work that will make its chief appeal to those who are expert in the use of the cystoscope. At the same time since trans-urethral methods are becoming more and more efficient and are occupying an increasingly important place in treatment, the general practitioner will find much in it that will be useful to him. As W. F. Braasch says in his short introduction, endoscopic surgery was given a tremendous impetus by the application to it, by E. Beer, of the high-frequency current. Used at first only in the treatment of vesical growths, it is now being employed for the removal of prostatic obstruction. The author's contribution to this development in prostatic surgery is well known to urologists and the book contains a good description of the Bumpus operation. However, the book deals with methods of treatment other than those associated with the use of high-frequency current. There are sections on stricture, lithotrity, the treatment of vesical ulcers by means of topical applications, the extraction of stones from the lower end of the ureter, and post-operative treatment. The fact that such modern methods as the use of a ketogenic diet in the treatment of sepsis have found a place in Dr. Bumpus's book is sufficient indication that the work is up to date.

The Principal Nervous Pathways

By A. T. RASMUSSEN, Ph.D., Professor of Neurology, University of Minnesota Medical School. London: Macmillan and Co., Ltd. 1932. Pp. 73. 12*s*. 6*d*.

TEACHERS of neurology fully recognise the importance of correlating structure and function in the nervous system, and of establishing a basis for clinical diagnosis in a sound knowledge of anatomical form. Unfortunately, however, the complexity of the system is such as often to render structural details uninteresting to the beginner, especially, perhaps, since the physiological purpose of many cell-fibre combinations is still unknown. To make the "dry bones live" is indeed a task for the instructor, and Prof. Rasmussen has sought to accomplish it by arranging anatomical data in a physiological way; he takes seriatim the main functional systems of the neuraxis and elucidates their component parts by a diagram in the first place, and a table of neuronic relationships in the second. His diagrams are of necessity laden with detail; yet, though printed in but one colour, they are remarkably clear; and if the student is not repelled by their elaborateness at his first glance he will assuredly learn much from their accuracy. Indeed, Prof. Rasmussen's charts and schemas really supply all the information about nervous pathways that can be desired by the student.

A Text-book of Neuro-anatomy

By ALBERT KUNTZ, M.D., Ph.D., Professor of Micro-anatomy in St. Louis University School of Medicine. Philadelphia: Lea and Febiger. 1932. Pp. 359. $5.50.

A NEW text-book of neuro-anatomy, written by Prof. Kuntz, should satisfy the requirements of the professing neurologist no less than of the student. The nervous system is dealt with from the standpoint of embryology, macro- and micro-anatomy, and in some degree also of physiology; apart from structural minutiæ, each of the main systems of the neuraxis is discussed in its functional relationships. Thus function is not only analysed, but it is also integrated; and as a consequence the reader obtains an excellent idea of the whole nervous system as a working and effective machine. There are nearly 200 micro-photographs, drawings, and diagrams to illustrate the textual descriptions, and good bibliographical references at the close of each chapter for those who wish to prosecute their studies further. The book is of convenient size and clearly printed, and should serve a useful purpose.

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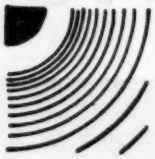

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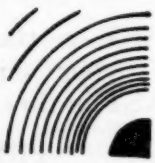

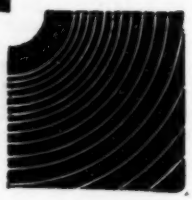

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THE DENVER CHEMICAL MFG. CO.

London, E. 3.

THE LANCET

LONDON: SATURDAY, OCTOBER 29, 1932

THE TEACHING OF HYGIENE ABROAD

COMPARISONS are salutary, and Prof. CARL PRAUSNITZ is to be thanked for the critical survey which formed his five Heath Clark lectures at the London School of Hygiene last week. No one is better qualified to speak on the teaching of hygiene in European countries; he was responsible for the League of Nations' report on that subject in 1930 and has since increased his knowledge by investigations in Russia. By their content and their delivery the lectures commended him warmly to his hearers, and as a visitor he was none the less welcome because he holds an English degree and worked as a bacteriologist for the Metropolitan Asylums Board before attaining his directorship of the Institute of Hygiene at Breslau.

Preventive medicine may be said to have four levels: there is personal hygiene, the affair of the individual; local hygiene, undertaken by the local authority; State hygiene, directed by a Ministry of Health or its equivalent; and finally international hygiene for which the Health Organisation of the League of Nations is now responsible. Since the ultimate object of all hygienic measures is the individual, public education in health matters may seem to be of paramount importance; but as the physician is the natural leader and organiser of all preventive work, and the value of such work depends on a proper coördination of scientific knowledge and practical organisation, it is clear that the satisfactory training of the doctor in preventive medicine is even more essential. Prof. Prausnitz compared the training both of the ordinary medical student and of the medical officer of health in various countries and that of the technical advisers and auxiliaries such as sanitary engineers and health visitors, and he also described the different State organisations, the chief schools of hygiene, and the various schemes of popular health education. In Germany, France, and Great Britain somewhat complicated systems have been gradually evolved out of a variety of previously existing organisations. While they are fairly complete in Germany and Great Britain, there are many lacunæ in the French system, especially in rural districts. Whereas in England the tendency has been to throw more and more health work on to the county, in France there are still 20 departments without *inspecteurs d'hygiène*, and in many of the others he is a lay and not a medical officer. On the other hand, the health education of the general public is being very actively undertaken, particular use being made in France of the health stamp and poster distributed by school-children and of the cinema. In Germany, museums of hygiene and travelling exhibitions are much employed. Prof. Prausnitz regards it as very unfortunate that in England the teaching of hygiene in elementary schools is not enforced; this view will receive influential support at the forthcoming conference on the place of biology in education announced on p. 977. For this conference schemes for the teaching of general science, physiology, and general biology in all types of schools have been outlined respectively by Prof. Julian Huxley, Prof. W. Cullis, Miss M. Bond, and Sir J. Arthur Thomson. Prof. Prausnitz also criticised the very imperfect training of the ordinary medical student in hygiene.

As regards the technical assistants of the M.O.H. in the three countries, in Germany there are no sanitary inspectors, their place being taken by "disinfectors" who have a few weeks' practical training, while factory inspection is done by engineers, not medical officers, after a long and thorough training in their special problems. All school teachers receive compulsory instruction in hygiene in the pedagogical academies of Prussia. In France sanitary police, *agents sanitaires*, carry out the orders of the health authorities, while (a curious point) vaccinations are performed by midwives. The health visitors in all three countries seem to have an adequate and similar training, but the lecturer thought it might be shortened in England without loss of efficiency. The M.O.H. himself must, in England and Germany, now possess a diploma in public health or its equivalent, but this is not necessary in France. The training in all three countries appears to be good though more stress might be laid on "field work," bacteriology, and industrial hygiene, at the expense of such subjects as chemistry.

In the countries of Eastern Europe—Poland, Hungary, Czechoslovakia, and Yugoslavia—which either came into existence after the war or had no previous social hygiene system, it has been possible to erect simple and clear-cut organisations embodying the experience of the older countries. Although their full development is far from complete they are in many ways free from the faults of the Western European systems. Largely thanks to the munificence of the Rockefeller Foundation, State institutes of hygiene have been erected in all these countries and besides training medical officers of health and their auxiliaries these institutes are usually in charge of the preparation of sera and vaccines and also undertake a great deal of practical work and research into the special problems of the country concerned. In Poland, for example, four typical areas around Warsaw—industrial, slum, forest, and rural—are allotted to the State School of Hygiene and are "run" by the students who also have the most thorough training in industrial hygiene in Europe. The nurses and health visitors trained at the school do 50 hours bacteriology as compared to the English medical student's 20! There are 140 local health centres of which the smallest have a room for the nurse and rooms for maternity and

child welfare clinics, tuberculosis, and simple health exhibitions. In Hungary, the fine State Institute of Hygiene at Budapest, founded in 1927, gives a nine months' course to 24 students and includes a nurses' school: nurses and health visitors undergo the same training in its early stages. Conditions are similar in Czechoslovakia, but in the districts of Bohemia there are far too many small hospitals and specialised clinics of various sorts—one district of 50,000 inhabitants in Prague having 11 different health organisations in charge of it. Thus concentration is necessary and it is perhaps unfortunate that hospitals and pharmacies are under the control of a legal department and not under the Ministry of Health.

Of all the Eastern European countries Yugoslavia, in the opinion of Prof. Prausnitz, is proceeding on the best plan and the most suitable and energetic lines, although of course poverty, racial and religious differences, and a low level of education mean that some time must elapse before the effects will have been felt all over the country. The mainspring of this work is Dr. Stampar, the director of the School of Hygiene at Zagreb, and so impressed were the League of Nations' authorities with the work done there that they asked Dr. Stampar and his assistant to be at the disposal of the Nanking government when they recently appealed to the League for help in reorganising the health services of China. The points which particularly excited Prof. Prausnitz's admiration were first, that the whole of the health services are unified under the Ministry of Health and Social Welfare; secondly, that each commune with a population of over 6000 has or will have a properly qualified M.O.H. and a "tertiary health centre"; thirdly, that the training in hygiene of the ordinary medical student is the finest in Europe, including as it does six months' hygiene, of which two months are spent in field work; fourthly, that architects and engineers taking the sanitary engineer's course study alongside the physicians taking the course for M.O.H.; and lastly, the splendid work done by the Peasants' University by which peasants come up for courses to Zagreb and return to their villages to become leaders of health education.

It is in Russia, as might be expected, that the most striking and original departures have been made from the generally accepted schemes of medical education. The problem before the authorities is how to produce a large number of adequately trained doctors as quickly as possible and an attempt is being made to shorten the curriculum by specialisation from the very beginning of the course. The scheme is as follows:—

1. Medical prophylactic faculty: physicians, surgeons, and dentists.
2. Sanitary prophylactic faculty: M.O.H., communal M.O.H., epidemiologists, nutritional medical officers, and factory medical officers.
3. Maternity and child welfare: women, infants, and children.
4. Physical culture.

Before beginning his studies the student has to choose or has chosen for him the faculty which he will enter, the proportionate numbers allotted to each faculty being 24, 13, 15, and 2. A choice which turns out to be unsuitable can be remedied by a course at an institute for post-graduate training. Students are of two different classes; one class enter after they have completed their ten years' education in the ordinary way, the others, in approximately equal numbers, are drawn direct from the ranks of the working-classes and are often, of course, somewhat older. Instruction is far more practical than with Western European nations and the second class of student do not appear to be inferior to the others. Students are housed, fed, and paid by the State and live in "messes" of half a dozen or so, great use being made of the spirit of competition between different groups. It should be noted that some 60–70 per cent. of the students are women. The original plan of 1930 was superseded last year by the plan outlined above, so that it is far too early to criticise any results, but it is certain that all who are interested in the teaching of preventive medicine will watch the developments in the U.S.S.R. with the greatest attention.

THE DRINKER RESPIRATOR IN ASPHYXIA NEONATORUM

THE construction of the Drinker respirator has already been described in our columns,[1] and its value in the treatment of respiratory failure in anterior poliomyelitis has been emphasised.[2] It will be recalled that the apparatus is designed to provide artificial respiration over a long period with a minimum of trauma to the respiratory system; the patient's body is placed within a closed tank, his head passing to the exterior through a closely fitting rubber collar, and by means of electrically driven blowers a negative pressure is produced within the tank, alternating with a return to atmospheric pressure. The negative pressure causes the patient's chest to expand and air to be inhaled, whilst on return to atmospheric pressure the recoil of the thorax and elasticity of the lungs result in expiration. The rate and depth of respiration can be varied at will. The method is of proved value in the treatment of carbon monoxide poisoning and in the respiratory failure in anterior poliomyelitis, and is extensively used in America; in this country an apparatus is available on application to Sir Robert Davis (187, Westminster Bridge-road, London, S.E.1).

Besides the full-size model, a much smaller apparatus of similar design has been constructed for infants. As indicated in the illustrations already published,[1] this can be heated if necessary and the child can be closely observed in it. Dr. D. P. MURPHY and Dr. J. V. SESSUMS[3] have now reported the results of treatment of 66 cases of asphyxia neonatorum with the Drinker respirator in the University of Pennsylvania and Philadelphia Lying-in Hospitals. The cases selected were those showing entire absence of respiratory activity (owing to which a number of stillborn

[1] THE LANCET, 1931, i., 1187; also 1150.
[2] Ibid., 1932, i., 1211.
[3] Surg., Gyn., and Obst., October, 1932, p. 432.

infants were unintentionally treated) or very feeble and infrequent respirations; all treatments were started within ten minutes of birth. From earlier observations MURPHY and SESSUMS had found that in moderate degrees of asphyxia neonatorum alternation of negative and atmospheric pressures was sufficient to bring about adequate ventilation of the lungs; but in cases of severe asphyxia they conclude from measurement of the air moving to and from the lungs that alternation of negative and positive pressure is an advantage. They therefore recommend the use of both positive and negative pressures (preferably equal) in all such cases, whether the asphyxia is severe or not. Of the 66 infants treated, 15 failed to breathe at any time, 5 breathed before but not after treatment, and of the 46 that breathed at least once during treatment, 39 developed finally an adequate degree of respiratory activity. Thirty of these last survived and nine died in hospital. A detailed analysis is given of the causes of the asphyxia as far as they could be determined on clinical and pathological grounds, and it is found that narcosis or injury (either due to breech or forceps delivery) accounted for the condition in nearly 64 per cent. of the series. Of the 36 infants which died, 19 (14 autopsies) suffered from cerebral injury; 15 were stillborn.

It is concluded from the observations made that narcosis is the most common single cause of asphyxia neonatorum, and that if possible maternal narcotics should be given not later than four to five hours before the expected time of delivery. Breech deliveries, on the other hand, were followed by the greatest number of deaths. It was found in general that treatment with the respirator was of greatest value in infants suffering from excessive narcosis (since these showed the lowest mortality), and in premature infants which seemed to survive their initial asphyxia although they did not always live long after birth. As far as the effect of artificial respiration on cardiac action could be determined, it appeared to be decidedly beneficial. In no case was there any evidence of injury having been caused by use of the respirator.

THE ÆTIOLOGY OF TRACHOMA

THE letter from our Budapest correspondent in our issue of Oct. 15th reminds us that the long drawn out campaign against trachoma in Eastern Europe shows few signs of drawing to a close. In some parts of Hungary the disease has long been endemic, but largely owing to the efforts of Prof. E. DE GROSZ the proportion of trachoma among eye cases presenting themselves at the university clinic in Budapest fell from 7·2 per cent. in 1891 to 2 per cent. in 1910. During the years 1914–1918 the segregation of trachoma in special regiments was successful in limiting infection, but when peace was restored the disbanded men carried the disease to areas hitherto immune, and in 1926 among the 8½ million inhabitants of Hungary 10,000 cases of trachoma were brought to light. In western Canada the position is equally unsatisfactory. Prof. G. M. BYERS, of McGill, warned [1] the last meeting of the Canadian Medical Association of the gravity of the situation in Saskatchewan and especially Manitoba where trachoma was introduced by the Mennonites who came from Russia to settle in the Red River Valley in the early seventies. The eastern provinces into which trachoma was introduced by settlers returning from Napoleon's Egyptian campaign are now practically free of the disease as the result of favourable climate, better social conditions, and the work of oculists such as BULLER and DESJARDINS, assisted by the absolute exclusion since 1927 of trachomatous immigrants. The disease does not now exist in Quebec city and for five years it has been found impossible to demonstrate a case of acute trachoma at McGill University. In the western provinces cases are now being rounded up and brought to the clinics by public health nurses. The disease however remains prevalent among the Indians of British Columbia and the prairie provinces; it is believed that 10,000 or more of the estimated Indian population of 110,000 have suffered from the disease.

Progress still awaits exact knowledge of ætiology. One of the last communications of the Japanese pathologist NOGUCHI, from the Rockefeller Institute where he spent the closing years of his life, was the announcement of the discovery of a bacillus which he believed to be the causative agent of the disease. Five years have passed and of the many pathologists who have repeated NOGUCHI'S experiments in many countries only a very few have been able to produce evidence purporting to confirm his results. Among these few, however, were some of the Rockefeller workers, and it is worth remembering that the late ERNST FUCHS, visiting America in 1930 after examining some of the monkeys which had been inoculated with the *Bacterium granulosis*, gave it as his opinion that they were suffering from undoubted trachoma. On the other hand, Dr. ROWLAND P. WILSON, director of the Giza laboratories, has pointed out [2] that the form of granular folliculitis produced in monkeys by various experimenters with *B. granulosis* is indistinguishable from that which can be induced by simple measures or the form which occurs spontaneously. Most decisive is his observation that pannus has never been observed. An extended investigation of the bacteriological aspects of trachoma has been carried on for some years by Dr. IDA A. BENGTSON for the U.S. public health service.[3] Attempts to isolate *B. granulosis* were made in 73 cases of human trachoma, principally from the State of Missouri, between the time when cultures of the organism were made available by the Rockefeller Institute in 1929 and July, 1931, but the results were negative in all cases. With regard to the experimental production of granular lesions in monkeys and apes by means of inoculation with cultures of the organism, the results of various workers (there are records of some 300 of such

[1] Canad. Med. Assoc. Jour., October, 1932, p. 372.
[2] Brit. Jour. Ophth., 1931, xv., 433.
[3] Public Health Reports, Washington, Sept. 16th.

experiments) are contradictory, but in no instance apparently has it been proved that the disease is identical with trachoma in man.

What has been produced by some of these experiments is a granular progressive type of lesion transmissible from animal to animal; in the tests carried out by Dr. BENGTSON herself the transmission was effected by the simple method of swabbing the diseased conjunctiva and conveying the infective material to the healthy conjunctiva of another animal. There have been a number of experiments in the transmission of trachoma from man directly to monkeys and apes, but none has yielded any striking result. A few observations are recorded on blind human subjects or on persons who volunteered to have the conjunctiva inoculated with *B. granulosis*; but although positive results have been claimed, Dr. BENGTSON considers that the results have been almost as inconclusive as in the test monkeys. To sum up, while it must be granted that the *B. granulosis* is capable of producing a granular condition of the conjunctiva in rhesus monkeys, and that this condition is transmissible from animal to animal, more efficient methods for demonstrating the organism are greatly to be desired. In America it has been demonstrated in cases of human trachoma occurring in certain districts, and this fact merits consideration, but it cannot be the efficient cause of the disease in all cases.

ANNOTATIONS

PRESENT-DAY RADIOLOGY

THE development of radiology to occupy a most important place in medicine was surveyed by Dr. Russell J. Reynolds in his presidential address to the Section of Radiology of the Royal Society of Medicine, on Oct. 21st. He dealt first with the improvements being made in the construction of tubes, apparatus, and devices for the protection of patient and worker, and in the technical methods used especially in the study of moving parts of the body. His review of the growing use of radio-opaque substances showed that hardly a cavity in the body has resisted one or other of the ingenious processes designed to make its outline visible without more than trivial inconvenience to the patient. The president pointed out that the first worker to use a radio-opaque substance in the body had been Strauss, who in 1896 had caused his patient to swallow capsules filled with barium subnitrate, and had subsequently traced them on the fluorescent screen. Lipiodol, first used in 1921, had proved of the greatest assistance in the investigation of spinal tumours, the condition of the lungs and pleural cavities, the accessory air sinuses, the genital organs, and the lacrymal sac. It should not, however, be used in cases of extreme iodine intolerance, active tuberculous disease with pyrexia, and poor health. Pyelography was, he said, another valuable aid to diagnosis; the intravenous route dated from 1923, when observers at the Mayo Clinic had found that the urinary tract could be outlined by the injection of sodium iodide. The "dye" technique for outlining the gall-bladder had been discovered in 1924. The intravenous technique for cholecystography was not often used nowadays, as oral administration gave very good results and was free from danger. The field of embryology and obstetrics had been rather more slowly invaded by radiology than other fields, but valuable information could now be obtained on the condition, age, position, and size of the fœtus, and there seemed to be no danger in a short diagnostic exposure. In 1921 D. A. Horner and in 1922 A. B. Spaulding had shown that fœtal death could be demonstrated by overlapping of the skull bones. Many methods of radio-pelvimetry had been devised, notably the simple and accurate one introduced by L. Rowden, and the condition and position of the uterus and Fallopian tubes could be ascertained with the aid of lipiodol.

Ventriculography and encephalography were invaluable for studying intracranial lesions. Recently Dr. Laruelle, at the Central Neurological Clinic in Brussels, had obtained excellent results by injecting such small quantities of air as 3 or 5 c.cm. without withdrawing any cerebro-spinal fluid, the patient suffering no inconvenience. Sialography was another recent technique. Thorotrast was now used to obtain shadows of the liver and spleen, but great care was needed. Arteriography was a valuable means of diagnosing cerebral tumours.

Despite the heavy criticism which had been levelled against the X ray as a therapeutic agent, it held a very strong position to-day. Shortly after the application of the rays for diagnosis a dermatitis with epilation had been noticed. This untoward incident had been the genesis of radiotherapy. G. B. Batten in London had treated one of the first cases of ringworm of the scalp, and cases of lupus, sycosis, and eczema had been treated very early. The effect of the rays on tissues was a destructive one, and diseased tissues were more susceptible to the effect than healthy ones. The tendency to-day is to use still higher voltages, and the rays thus produced were far more penetrating than anything previously used, so that deeper lesions could be attacked. Various methods of measuring dosage had been used in the past, but the common unit to-day was the "r." It was now possible to determine more or less accurately the exact dose given to a tumour at a certain depth under specified conditions. The tendency to-day was to fractionate the dose more and more, so that the patient's vitality was kept at a maximum, enabling him to put up the best possible fight against disease. Fortunately, as time went on, less was heard of the harmful effects of X rays. The acute burn was almost extinct, chronic burns were rare, and blood changes from short wave-length rays were few, because radiologists were realising more and more the necessity of taking reasonable precautions. In the president's view, the position of radium therapy to-day commanded great respect. Those who had used radium for some years had no doubts of its value. General experience tended to show that needles were to be preferred to seeds. During the last year or so efforts had been made to put radium therapy on a much more scientific basis. As time went on its interstitial use would more and more give place to surface technique.

A TEST FOR BLOOD

THE benzidine test for the presence of blood in urine or fæces depends upon the peroxidase action of hæmatin. It is usually performed with hydrogen peroxide or ozonic ether; the former has the disadvantage that it is readily subject to decomposi-

tion, the latter that it is expensive. Mr. John Ingham,[1] of the medical unit of the Welsh National School of Medicine, has lately drawn attention to the value of Hyperol, a compound of hydrogen peroxide and urea, in the performance of the test. Hyperol is said to be cheap and absolutely stable at ordinary temperatures. In the performance of the test on urine a few crystals of benzidine, two drops of acetic acid, a drop of urine, and a pinch of hyperol are brought together on a white plate; the presence of blood is shown by the development of the usual blue colour. In the case of fæces a watery emulsion is made and heated to over 60° C., two or three drops of acetic acid are added and the mixture is cooled. The test is performed as for urine, with a drop of the watery extract. If a more delicate test is desired the acidified watery emulsion may be extracted with ether and the test performed on the separated ethereal extract. An even higher degree of delicacy may be obtained by evaporating the ethereal extract, redissolving in water, and applying the test. Ingham claims that by this means blood may be detected in a 1 in 3,000,000 dilution; but the value of such delicacy for a clinical test is of course open to doubt.

BATHS AT MARGATE

THE Isle of Thanet claims to have the purest and most invigorating air in the world together with the maximum of sunshine and the lowest rainfall in the country. The town council of Margate has added to these natural attractions an installation of medical baths, under the supervision of Dr. G. L. Brocklehurst, the medical officer of health, where consulting rooms are available for medical men and their patients, with a trained staff to carry out the prescribed treatment. The latest addition to this is a series of Sandor foam baths for use in disorders of the cardio-vascular system where other methods of applying hot air and water are undesirable. In opening this new Physical Treatment Institute on Saturday last, Sir StClair Thomson recalled that it was Dr. Lettsom, a past president of the Medical Society of London, who in 1791 founded the Royal Sea-bathing Infirmary at Margate, and was thus the pioneer in the treatment of surgical tuberculosis by climate and open air. Margate, he said, fulfilled the conditions laid down by Hippocrates in his "Airs, Places, and Waters." With its high record of sunshine, low rainfall, and freedom from mists and fogs, Margate offered special attractions for feeble and ill-developed children, for convalescence after operation or illness, for catarrh of the air-passages, and for the ever increasing number of neurasthenics. He had little doubt, Sir StClair remarked, that when Hamlet was sent to visit England, his uncle Claudius had Margate in his mind when he said:

> "Haply the seas and countries different
> With variable objects shall expel
> This something-settled matter in his heart."

The "waters" of Margate provided what was perhaps the finest and safest sea-bathing in Europe, and the baths could be enjoyed all the year round. Medicine was sometimes jeered at as an uncertain science because it was always changing, but it was just because it was changing that it was progressive, and since the days of Lettsom the armamentarium of the physician had been enriched by physical methods such as massage, movements, heat and cold, wet packs, a wealth of applications of electricity, and hydro-therapy in all its forms. In the success of every remedy there was, as they all knew, a large physical element, and those healing measures would have more chance of cure in the bracing air of a town like Margate, with the interests, sports, and distractions it could supply. Every well-ordered centre of convalescence has to make good the deficiences of a northern climate, and Margate, having borne a hand for a century and a half in the treatment of tuberculous children, may now play its part in bringing home to the public the efficacy of physical treatment, given with the same accuracy and skill as drugs or operations.

[1] Biochem. Jour., 1932, xxvi., 1124.

IS THERE A MOTOR FACTOR IN DEXTERITY?

A REPORT [1] just published by the Industrial Health Research Board tells of a search for the existence of a motor factor—in contradistinction to a mental or intelligence factor—in the make-up of the human machine. All activities fall into the province of one or other factors. Thus the solution of a mathematical problem belongs to the mental factor, while an activity such as walking, that usually proceeds without conscious control, clearly belongs to the motor factor. Estimates of intelligence can now be made with some confidence; but estimates of manual abilities have, in the past, proved so unsatisfactory as to give rise to a doubt concerning the existence of a motor factor. Yet if such a factor does exist, and can be measured, information regarding it would be invaluable in vocational guidance. The author sought earnestly, using certain familiar laboratory tests devised for estimating manual dexterity, and he detected indications of a common motor element in all the tests in question. Then he pursued this clue by extending his search into dexterity displayed at definite industrial operations of accepted utility, such as wrapping shaving soap or toffee, packing needles, and making flies for angling. Evidence was forthcoming of the existence of a motor factor common to each test, and of its being central in origin rather than localised in the end organs. While the precise nature of the factor remains obscure, it seems to be largely manipulative, dependent perhaps on factors, such as hand and eye coördination, and speed of movement. One side point of interest emerged in the inquiry—viz., that in many dexterous performances speed is promoted rather than decreased by regard to accuracy.

BERTRAM WINDLE

THERE are men of whom it is difficult to say what they did that was great, while feeling that they filled rightly a great place in affairs. To this category belongs Sir Bertram Windle, whose affectionate biography has just appeared.[2] He was a distinguished biologist, wrote and examined much on anatomy, and the doors of the Royal Society were opened to him early in his career. He was a constructive authority on education, and held university professorships in England, Ireland, and Canada, impressing his own individuality on the first two in particular, and advancing generally measures of progress. At Birmingham, where he was professor of anatomy and anthropology for 20 years, he was one of the prominent advocates of the institution of the University. At Cork he did much energetic work as principal of University College, and here his devotion alike to scientific research and Roman Catholic

[1] An Experimental Study of Certain Forms of Manual Dexterity. By J. N. Langdon. Report No. 66. London: H.M. Stationery Office. 1s.

[2] Sir Bertram Windle: a Memoir. By Monica Taylor. London: Longmans, Green and Co. 1932. Pp. 428. 12s. 6d.

doctrine furnished him with intimate material for semi-theological argument and for the writing of that valuable book in defence of revelation, "The Church and Science." He sat for considerable periods on the General Medical Council, representing first the University of Birmingham and later the National University of Ireland, and he was the author, outside scientific papers, of many books of history and archæological associations with the countryside. A many-sided personality, his interests were perhaps too diffused to ensure any one of them being pursued to the point at which he aimed, and this can be surmised from the long record of his life so piously set out by his biographer.

THE STORY OF HEALTH INSURANCE

While maintaining a pleasant format and arrangement Dr. McCleary has managed to encompass within his little book [1] a fairly comprehensive review of national health insurance, regarded especially as a measure of public health. The practitioner, whether on the panel or not, should find a place for it on his bookshelves, even in these hard times. The book is not intended in any sense as a handbook for the insurance doctor; his needs in this respect are well provided for elsewhere. The man who is interested in his job, however, will be glad to read how health insurance has come about and how it works elsewhere; with some general reflections on the good points and the bad of the British system. In Europe, we read, a system of national health insurance on a compulsory basis now finds its place in nearly every country. France is one of the latest to adopt a system which on its medical side follows the essential provisions of the British plan, though with a closer approximation to the conditions of private practice. It is interesting to be reminded that the foreshadowing of a compulsory scheme in this country in Mr. Lloyd George's budget of 1909, based on a Bismarckian precedent, actually went for some weeks unnoticed in the medical press, except for the remarkable letter [2] in our own columns by the late Dr. J. A. Keay of Greenwich. Those who would like to read again of the events of 1911—how the Statute left the House of Commons a very different measure from that which was introduced; how the British Medical Association carried in substance their six cardinal points (the panel system, we are reminded, did not owe its origin to the Government but to the Association); and how, as they were humorously told by the *Westminster Gazette*, the Association did not know when it had won—will find the story well told in these pages. Dr. McCleary tells us that insurance, of a kind, commenced with the social guilds in the middle ages and, passing through other stages, including the wonderful provision made by the friendly societies in this country, ended in the compulsory scheme in which those societies themselves played such an active part. Many a harassed panel doctor will read with a sigh of the declaration required from its members by the eighteenth century Loyal Unity Union Society of Lancashire:—

> "I do declare that I will not complain of sickness so as to be troublesome to the box [the old name for the sickness funds] without just cause . . . and as soon as it shall please God to give me health and strength I will immediately declare off the box."

The chapters on the social value of health insurance and its future development will be read with special interest. The medical service will, in the author's opinion, inevitably tend to become separated from the cash benefits, and yet, great as are the deficiencies of the service and great as is the need for its coördination with the health work of local authorities, the medical service remained untouched by the insurance legislation which followed the Royal Commission of 1926 and by the Local Government Act of 1929. Two other quotations in Dr. McCleary's book are of interest. Of the medical service he writes: "The most effective influence that keeps the insurance practitioner up to the mark is his own professional conscience." And of the insured person: "Deliberate imposture is not common. But it is not difficult for a man with a slight ailment to persuade himself that his repugnance to sustained exertion is evidence of incapacity for work."

[1] National Health Insurance. By G. F. McCleary, M.D., D.P.H. London: H. K. Lewis and Co. 6s.

[2] THE LANCET, 1909, i., 1485.

THE ECONOMICS OF TUBERCULOSIS

IN a presidential address to the Tuberculosis Association, on Oct. 21st, Dr. Jane Walker began by remarking that if infection is to be the basis of any attempt to control tuberculosis it was doomed to failure. The control was largely psychological; anything that lowered vitality, whether it was anxiety, softness of living, poorness of living, bad housing, alcoholism, or what not, tended to make an easy victim to the disease. Economically considered, perhaps the most important difference between tuberculosis and most other infectious diseases was the length of time it lasted, and the great variety of its manifestations. No accurate figures were available about the incidence of tuberculosis in England and Wales; the incidence of the disease must be measured by its death-rate, which was going down. In England and Wales in 1901 the deaths from tuberculosis numbered 58,930; in 1911, when the first National Health Insurance Act was passed, they numbered 53,120—a drop of 5810 before the great concerted effort began. Public opinion, said Dr. Walker, was not aroused until the worst was over. The decline was obviously not entirely due to the anti-tuberculosis measures taken; it might be due, at least in part, to what had been called "the subsidence of a prolonged epidemic wave," as in the analogous cases of small-pox and scarlet fever. But we were, she added, constantly being pulled up and brought face to face with some new factor in this disease, such as the observation that the mortality among young women had not gone down at the same rate as that among young men. It had, in fact, even risen to some extent. The same thing occurred during the war, and there was, she thought, a clear connexion between the two observations. At one time tuberculosis was regarded as a home disease, and it was thought that if people got out more and perhaps earned more money to put into food and other household amenities, tuberculosis would go down. The increased mortality-rate among young women did not bear this out. Many of the occupations held by women at the present time involved more arduous exertion than had been customary for them, and it was true, as Dr. Burton Fanning had said, "there are few causes more powerful to determine the outbreak of pulmonary tuberculosis than physical over-exertion. In at least 10 per cent. of my patients the disease seemed directly attributable to their having overdone themselves. . . . It is important to recognise that although exercise be taken in the open air, it is conducive to the development of consumption if it entails exhaustion or fatigue." It was a fact, however, that whatever the causes of the decline might be the general tuberculosis mor-

tality was steadily going down. What the Association had to consider was how could the decline be speeded up. The tragic result of tuberculosis was the patient's gradual loss of working efficiency, so that he fell steadily in the social scale because less and less money was coming in. These cases, steadily getting worse and so less efficient, were the real crux of the problem; they were not the cases with which the sanatorium should be expected to deal. For such patients really cheap accommodation should be provided without the paraphernalia deemed necessary for cases likely on the one hand to die quite shortly, or on the other to recover and take their place in the world as useful citizens. Such institutions would need few nurses and no resident medical officer; the food might be of the same nature as that to which the patients were accustomed at home; and, since the buildings need not be designed on the lines of a modern sanatorium, it might be possible to take over for this purpose some of the mansions which their owners were now unable to keep up. The ordinary work of such a house could be undertaken by the patients. Each of these institutions should be for one sex only, the supervision being easier and the place less costly to run. Household duties would not occupy all their time, and some definite occupation should be carried on whereby the inmates might earn a little money varying with their proficiency. While a plan of this kind would suffice for single men and women, for the families there was nothing better than removal to a village settlement. Success in dealing with tuberculosis did not lie in any one direction.

VIRUSES OF THE POCK DISEASES

DISCUSSING vaccination and small-pox in his presidential address to the Pathological Society of Manchester on Oct. 12th, Prof. H. B. Maitland spoke of the possibility of modifying the viruses of the pock diseases by passage through various animal species. Not only could changes in pathogenicity and tissue affinities be effected, but it had been shown recently that the viruses may be altered to some extent antigenically. There was still, however, some essential antigenic correspondence between variola and vaccinia, since vaccination protected against small-pox. The virus of vaccinia was now held to be represented by the Paschen bodies. The nature of immunity to vaccinia was on broad lines comparable to antibacterial immunity. Antibodies had been demonstrated by the reactions of agglutination, precipitation, and complement fixation. They could also be demonstrated by the in-vitro neutralisation test. It appeared probable that the virus was sensitised by contact with immune serum. It was not rapidly destroyed, and virus could be recovered for a time from such a mixture. There was evidence that phagocytosis might be an important factor in immunity. Prof. Maitland made the interesting suggestion that the production and study of culture-virus had now reached a stage in laboratory investigations when serious consideration should be given to the possibilities of utilising it on a large scale for human prophylaxis. The lesions produced by culture-virus were like those caused by calf-lymph, and an advantage of using culture-virus as a substitute for calf-lymph in performing vaccination on children would be its freedom from bacteria. Prof. Maitland noted that the establishment of immunity to vaccinia without the production of lesions had now been achieved in animals. Killed virus was a weak immunising agent, but its efficiency might depend on the method used for killing it. Further exploration might reveal that the best conditions for preparing a killed prophylactic had not been attained. Mixtures of virus and immune serum could induce a considerable degree of resistance in rabbits and monkeys, and might in man be capable of providing a serviceable immunity. In such mixtures the virus was not dead, but its admixture with serum prevented the occurrence of lesions. There was some evidence to suggest that resistance to vaccination after recovery from infection might depend upon the persistence of living virus in the tissues, but this point had not been fully worked out. Whatever future work may bring, Prof. Maitland made it clear that at the present time the fact that living virus is much more effective than dead virus in establishing immunity is indisputable.

CHAUCER AND MEDIÆVAL MEDICINE

AT the ninth international congress of the history of medicine held at Bucharest from Sept. 10th to 18th, under the presidency of Dr. Victor Gomoiu, Dr. J. D. Rolleston, the representative of the British Government and delegate of the Royal Society of Medicine, presented a paper on Chaucer and Mediæval Medicine. With the object of illustrating contemporary medicine by quotations from belletristic literature, as he had done in several previous essays, Dr. Rolleston had collected the various medical allusions in Chaucer's works under the headings of the medical profession in Chaucer's time, contemporary medical doctrines, various diseases and their treatment, and miscellaneous topics. The doctor of physic portrayed in the Prologue to the Canterbury Tales stands for the properly qualified practitioner of the time who had been brought up on the works of Hippocrates, Galen, Rhazes, Avicenna, and other medical authorities, and was probably modelled on John of Gaddesden. The contemporary medical doctrines of the four elements—earth, air, fire, and water—of which man was thought to be composed, of the four humours—hot, cold, moist, and dry—and of the four complexions or temperaments—the sanguine, the choleric, the phlegmatic, and the melancholic—are illustrated in several passages in the Canterbury Tales and elsewhere in Chaucer, the somnour in particular being an excellent example of the sanguine type. The same pilgrim was also the subject of an intractable acne rosacea which was doubtless not unconnected with his alcoholic habits. After quoting the passages relating to the plague, leprosy, and malaria, which were the most important diseases prevalent in Chaucer's time, Dr. Rolleston maintained that in view of the frank presentation of the physical side of sexual life in Chaucer's works, the absence of any allusion to syphilis, which was so frequently mentioned in Shakespeare two centuries later, was extremely valuable evidence against the existence of the disease in the age of Chaucer. Had syphilis been prevalent then Chaucer would most probably have represented one or more of the free-living pilgrims as suffering therefrom, and the section in the Parson's Tale relating to "leccherie" would have included a warning of the dangers awaiting the sinner. As regards treatment, the principal remedies mentioned by Chaucer were such drugs as emetics, purgatives, aphrodisiacs, and the panacea theriaca which had been handed down from classical antiquity, and in the middle ages was called triacle, ointments, herbs, and charms. The miscellaneous topics of medical

interest in Chaucer include the passages in the Parson's Tale dealing with the overlying of children, criminal abortion, and infanticide, the existence of privies, and the success of quack veterinary practice, so amusingly described in the Prologue to the Pardoner's Tale.

THE OFFICE INTERNATIONAL D'HYGIÈNE PUBLIQUE

Sir George Seaton Buchanan, senior medical officer of the Ministry of Health and delegate for the United Kingdom, has been appointed President of the Permanent Committee of the Office International d'Hygiène Publique, in succession to the late Mr. Otto Velghe, secretary-general of the Ministère de l'Intérieur et de l'Hygiène at Brussels. Mr. Velghe had held that office continuously from 1919 until his death at Geneva which occurred suddenly whilst he was attending the session of the Health Committee of the League of Nations on Oct. 11th. This International Office, it will be recalled, was established by the International Convention of Rome, 1907, and its Permanent Committee consists solely of the technical delegates of the participating Governments. The number of States adhering to the Convention of 1907, whether members or non-members of the League of Nations, has increased considerably within the last ten years, with the result that the total of the participating Governments is now 51, and the representation is practically world-wide. The office is principally concerned with technical and administrative matters arising out of the numerous international conventions and agreements on health questions, of which the International Sanitary Convention, 1926, is the chief. Its Permanent Committee, which meets twice a year in Paris, is also the Advisory Council of the Health Organisation of the League of Nations.

Sir George Buchanan will leave at the end of this week for Capetown to attend a conference of State health administrations which is being convened for Nov. 15th on various matters relating to infectious diseases. All the principal British possessions on the east side of Africa, together with Portuguese and one or two other foreign colonies, will be represented, Sir George being present on behalf of the League of Nations.

DRIED AND CONDENSED MILKS

THE problem of milk distribution has lately been forced on the attention of the public. There is little doubt that if agreement had not been reached at the eleventh hour between the producers and distributors in the recent dispute concerning the price to be paid to the farmer for his raw product, there would have been a large, if only temporary, increase in the consumption of dried and evaporated milks in this country. Whatever may be the comparative merits of raw and treated milks, there can be no question as to the value, under certain circumstances, of a supply of milk which can be safely stored for long periods and can be transported readily and cheaply to any part of the world. A good deal of attention has been paid to the scientific problems connected with the manufacture and the nutritive properties of condensed and dried milks; two recent reports [1] of the Hannah Dairy Research Institute deal comprehensively with the whole subject. The first of these is concerned mainly with the chemical and bacteriological problems met with in milk production and in the manufacture of dried and condensed milks; the second deals with the engineering side of manufacture. The aim of both has been to collect all the available information which would aid the manufacturer to turn out economically the best possible product, alike from the point of view of freedom from disease-promoting agents, retention of nutritive properties, and palatability. Special attention is directed to problems, theoretical and practical, which still await solution. The reports should prove invaluable to those engaged in these important industries.

[1] The Hannah Dairy Research Institute. Bulletin No. 3: The Properties of Milk in Relation to Condensing and Drying of Whole Milk, Separated Milk, and Whey. By L. A. Allen, M.Sc., Ph.D. Bulletin No. 4: The Engineering Aspects of the Condensing and Drying of Milk. By A. W. Scott, B.Sc., Ph.D., A.M.I.Mech.E. 1932. Glasgow: Aird and Coghill, Ltd.

MOSQUITO-PROOFING OF BARRACKS IN INDIA

FOR his presidential address to the United Services Section of the Royal Society of Medicine on Oct. 10th, Group-Captain A. W. Iredell chose the subject of Mosquito-proofing of Barracks by the Royal Air Force in India. The success of this procedure in the Army at Lahore has facilitated similar treatment of R.A.F. barracks at Karachi and near Quetta. The saving in malaria cases was much the same as already reported, but there is the same difficulty as of old in getting money for the purpose. The cost was £8000 at Karachi, which of course appears a large sum, but there are really great savings, as we have already insisted.[1] Estimates are needed from experienced officers of the money saved to the State, in days in hospital saved, in cost of treatment, and in gain of service; for until these facts become well known, administrators are reluctant to spend money, with only a pious hope that the expenses to be met by their successors will be lessened. Mere numbers of cases saved mean little to lay civilians in charge of estimates. Group-Captain Iredell added to his statistical proofs his own statement of the greatly increased comfort of the men, no longer troubled by their mosquito nets and saved from the inconvenience of the many insects other than mosquitoes which are kept out by mosquito-proofing.

WE regret to announce the death on Oct. 24th of Mr. A. Freeland Fergus, late honorary surgeon to the Glasgow Eye Infirmary and ophthalmic surgeon to the Glasgow Royal Infirmary.

THE next British Congress of Obstetrics and Gynæcology will be held in Birmingham from April 5th to 7th, 1933, and not, as previously arranged, from the 19th to 21st. The main subject of discussion will be the Mechanism of Uterine Action and its Disorders. Any member who wishes to read a paper should send a copy before Dec. 31st to the hon. local secretary, Mr. W. E. Barnie-Adshead, 89, Cornwall-street, Birmingham.

[1] THE LANCET, 1928, i., 922; 1930, i., 926.

BOGNOR REGIS HOSPITAL.—On Saturday, Sept. 24th, the new Bognor War Memorial Hospital was formally opened by Lord Leconfield, the Lord-Lieutenant of Sussex. Mr. James Fleming, to whose generosity the first Bognor hospital, planned 37 years ago, owes so much, has once more given practical support. After the opening ceremony a dedication service was conducted by the Bishop of Chichester. The building has cost £15,000.

POST-GRADUATE LECTURES

THE lectures summarised below formed part of the autumn post-graduate courses at London teaching hospitals. Prof. Boycott's was delivered at University College Hospital, Dr. Wilson's at St. Mary's, and those of Dr. Wall, Mr. Cairns, and Dr. Brain at the London.

CANCER OF THE LUNG

(PROF. A. E. BOYCOTT)

¶ THIRTY years ago, in London, "mediastinal tumours" were quite rare; a big hospital might have none or one or two a year, it was difficult to know much about them and we were content to think of them as lymphosarcomas of the mediastinal glands which often grew into the neighbouring parts of the lung. But they were commoner in other places as I learned when I went to Manchester about 1912. We were then realising more and more clearly the importance of chronic irritation in the causation of cancers, and it was natural to associate the prevalence of what we supposed were sarcomas of bronchial glands with the absorption of the irritating particles so abundantly present in the air in those parts. As a matter of fact it seems that the disease was by then becoming more common generally though the increase was not enough to attract attention and comment till about 1922 when workers in many places in England, Europe, and America began to meet with examples of it quite frequently. It is extremely difficult, indeed hardly possible, to get precisely comparable statistics between one hospital and another or between different years at the same hospital, but there is no doubt that on the whole (though not perhaps everywhere) the disease is substantially commoner now than it used to be; in London at any rate it has become commonplace and familiar instead of being a curiosity. This has enabled us to know enough about it to make it interesting.

In the first place, we know, chiefly by the work of W. G. Barnard, that the great majority of "mediastinal tumours" are carcinomata of bronchi. A good proportion are obviously squamous-celled tumours and a few are mucus-forming columnar-celled growths. Careful histological examination of the rest shows that the small round or oval cells of which they are composed are not characteristic and indicative of their origin; here and there more differentiated areas will be found in which polygonal cells and often regular epithelial acini declare the real source of the growth. As a matter of gross anatomy it is also possible, especially with the smaller younger tumours, to see how the tumour begins in the mucosa of the larger bronchi and thence spreads to the glands rather than vice versa as we used to think. It is not at all clear why it does not grow out into the lumen of the bronchus; if it did, early diagnosis might be easier. We have then (1) mediastinal lymphosarcomas, many of which arise in the thymus; (2) carcinomata of bronchi which are much the commonest; and (3) a rare tumour which appears to be a carcinoma of alveolar epithelium.

In the second place, we have had an interesting problem in ætiology to solve and we still have it. Numerical analysis of the more complete data (such as J. B. Duguid did for the records of the Manchester Royal Infirmary) seems to show that the recent increase began long before pathologists took notice of it—somewhere about 1890 or 1900. If that is so, the influenza of 1918–19 and war gases can have had nothing to do with it. Presumably, therefore, the increase has been caused by some change in habits or mode of life or environment. In speculating what this might be, we cannot put aside the very definite evidence, clinical as well as experimental, that an irritant must act for at least about a quarter of the natural span of life before it produces a tumour; the latent period for mule-spinners' cancer is at the least 15 and on the average 35 years of exposure to the effective mineral lubricating oils. These data, it is true, apply to epitheliomas of skin and may not be directly transferable to tumours of mucous membranes. But something of the same kind must surely be true for these also, and in looking for the cause of bronchial cancer we should probably consider what happened towards the end of last century. The environment as a whole has become less carcinogenic; there is more soap and hot water, less irritating food, the air is cleaner, the general standard of life has greatly improved. We have, on the other hand, much more tobacco and more recently petrol engines and tarred roads; whatever the agent, it produces lung cancer much more frequently in men than in women.

In the third place, the increased frequency has led to a much better knowledge of the clinical aspects and to a great improvement in diagnosis. The disease commonly begins in the large bronchi in the root of the lung; it soon spreads to the neighbouring lymphatic glands and metastasises early to distant parts of the body especially the central nervous system and the suprarenals. The primary growth in its early stages causes no symptoms which attract serious attention; there must presumably be a certain amount of cough but that is after all the common condition of most people. As the lung tumour extends, we have dyspnœa, pleurisy, and hæmoptysis. But it is remarkable how various the initial complaint may be and in how many cases it comes from a secondary growth. A man apparently in good health may die from a profuse hæmoptysis or he may spend months in a tuberculosis sanatorium or he may begin with a sudden pleurisy or he may simulate a subacute pneumonia. Or he may slowly develop the classical symptoms of a cerebral tumour or have a sciatica or a hemiplegia or Addison's disease or auricular fibrillation (from direct invasion of the heart) or intestinal obstruction (from secondary glands) or debility without any localising signs. The possibility of cancer of the lung is worth bearing in mind in any queer case.

THE MANAGEMENT OF PULMONARY TUBERCULOSIS

(DR. CECIL WALL)

Laennec said that Nature often cured tuberculosis, but the physician seldom played any part in the cure. We can say no more to-day. We have learned to avoid interference with the natural processes. The hypothesis on which we have to work is that tuberculosis is a local disease which produces general symptoms by the absorption of toxins into the circulation; in this it resembles diphtheria and tetanus, and differs from diseases like scarlet fever and measles in which general disease produces local symptoms. In most cases of tuberculosis the symptoms due to the local disease are unimportant; the

toxæmic symptoms are those which we have to combat and which will give guidance in the management of the case. Most patients in whom the disease is partially arrested will get a warning symptom of a relapse. The warning symptom varies in different patients; in one it may take the form of increased cough, in others of pains in the chest, insomnia, malaise, or headache. It is important to note the warning symptom in each patient and to initiate treatment at once. Fatigue is the common cause, rest the usual treatment.

Three methods of controlling tuberculosis suggest themselves:

(*a*) Attempts to reduce the quantity of toxins reaching the circulation.
(*b*) Attempts to neutralise the toxins by producing active or passive immunity.
(*c*) Chemotherapy. This is probably the method of the future, but the ideal drug which will kill the organism in the lesion has not yet been discovered.

It has long been known that rest is the important thing in the treatment of tuberculosis. Dr. Marcus Paterson many years ago introduced treatment by absolute rest; the febrile patient was kept motionless in bed and was not even allowed to feed himself. This was a great advance in treatment, and was followed by attempts to put the focus of disease at rest by collapsing the lung by means of artificial pneumothorax, by oleothorax, avulsion of the phrenic nerve, and thoracoplasty. The general practitioner is chiefly concerned with the treatment of the patient after he has left the sanatorium. He must be made to rest at once on the appearance of a warning symptom; relapses are due to neglect of these warnings.

Attempts to procure specific immunity by means of tuberculin have never been satisfactory. The patient who has recovered from the disease is more likely than the ordinary person to acquire another tuberculous lesion later in life. Tuberculin can be used to raise the patient's resistance against tuberculotoxæmia, and does relieve symptoms to some extent. As regards chemotherapy, sanocrysin seems to benefit certain cases, but there are many contraindications to its use, and many patients appear to have idiosyncrasy to it, so that the number of cases in which it can be used with advantage is limited.

The general treatment consists of rest, fresh air, and good food. Rest is essential; an overdose cannot do harm. Marcus Paterson thought that immunity could be induced by releasing into the patients circulation at intervals a certain amount of tuberculin from the lesion itself, and introduced the system of graded exercises. The hypothesis was incorrect but the treatment was sound; graded exercises act as a test of progress. Emotional excitement must be classed with exercise.

Sanatoriums provide a healthy, regular life under continual supervision more cheaply than it can be obtained in the patient's home; moreover, they provide the element of mental rest which can never be attained in the bosom of one's family. The patient, when he begins to get about, has the advantage of companionship with people who have to grade their output like himself. He will not be discouraged by the sight of patients with symptoms, because in a well-run sanatorium such patients will be kept out of sight in bed. Clean air is valuable, but complete exposure to open air in all weathers is undesirable. The public think immediately of Switzerland when tuberculosis is mentioned; many Swiss sanatoriums are good, but they seldom have grounds attached to them, consequently patients are beyond the supervision of the superintendent when they go out for exercise. English sanatoriums have good grounds, and it is advisable to send the patient to an English sanatorium in the early stages, and to Switzerland, if he wishes, for convalescence. Burney Yeo's aphorism holds good: "Care without climate is better than climate without care." A patient should not go to Switzerland unless he can afford to live comfortably when he gets there. There are disadvantages in the tropics for these patients, but they have the recommendation that appointments there are fairly easily obtainable in which the patient will be able to sit still and direct other people. In parts of South Africa the dust is a disadvantage, and patients do not do well; in British Columbia, California, the Argentine, and Nairobi, however, the benefit of climate is great.

An occupation in which the patient is his own master and can slacken work when necessary suits these cases best. There is a prevalent idea that people with tuberculosis should live in the country, and many move out of town, coming in by train daily; a few can stand the double train journey in addition to the day's work, but most of them will do better by staying in town. Again, some patients, impressed with the importance of fresh air, go for a long bicycle ride after their work; they would do much better to rest. A philanthropic society used to get patients after leaving sanatoriums posts as 'bus conductors, until it was found that conductors traverse about 15 miles a day at a jog-trot up and down stairs. The same society also tried to turn clerks into farm labourers at a wage of 28*s*. a week. A farmer estimated that a man loading hay had to lift about three tons a day. The strength of the patient is not equal to the task, and the standard of living at such a wage is too low; such experiments are doomed to failure.

A good mixed diet with a four-hour interval between meals suits these patients best. The old fad for giving them enormous quantities of milk—four pints a day—only led to dyspeptic symptoms, and has now been abandoned. If the patient likes extra milk and can take it let him have it, but never force it upon him. The amount of vitamins necessary to satisfy nature is so small that there is no reason to add them specifically to a good general diet. Salad dressed with olive oil is a useful means of introducing extra fat into the diet. Many cases of alcoholism owe their origin to tuberculosis; the patient drinks to get rid of the sense of fatigue. Alcohol in small quantities, however, may be useful to stimulate appetite, and in older people, accustomed to alcohol, it is of decided value, causing vasodilatation and easing the action of the heart.

TREATMENT OF COLI BACILLURIA BY A KETOGENIC DIET

(DR. C. M. WILSON)

INFECTION of the urinary tract by the colon bacillus is common, and a substantial minority of those who suffer from this infection fail to respond to either medical or surgical treatment. In May I had qualified for membership of that minority by seven months ineffectual search for relief, when Prof. Cabot was good enough to give me the proportions of fat, carbohydrates, and proteins in the ketogenic diet with which Clark and Helmholtz had reported encouraging results.

On the third day the urine was nearly clear; by the end of the sixth day it was reported sterile. I

remained on the diet for another week and then ate anything. Since that date four months have passed without a recurrence of the infection.

I shall try to tell you how the diet may be made comparatively inoffensive to the patient, and what results have been obtained in the treatment of 20 adults with *B. coli* infection of the urinary tract, who were deliberately chosen on account of the chronicity of the infection. The diet used has been varied with the patient, but the proportions of protein, fat, and carbohydrate have remained fairly constant: 60 g. of protein, 240 g. of fat, and 20 g. of carbohydrate. It would be idle to pretend that patients like the diet, but with care and a little imagination it can be robbed of most of its disagreeable features. We have to reconcile them to 240 g. of fat in the day, and to the almost total deprivation of carbohydrates. Protein is given in the normal amount.

If fat is disliked in one form, it can be given in another. Let us suppose the 240 g. of fat are given as :—

10 oz.	cream 40 per cent. containing	100	grammes of fat.
3½ „	butter	„ 90	
2 „	fat bacon	„ 36	

The remainder of the fat is taken in meat and eggs. It is the butter and cream to which most patients object. If a jug of cream and a slab of butter with some diabetic biscuits are presented to the patient he will soon quarrel with the diet. As much as possible of both butter and cream should be used in cooking. A vegetable cream soup and a fruit fool will not leave much cream to be taken with tea or coffee. In my experience of the diet I found the butter a stumbling-block. As we shall see presently, we have no carbohydrate to spare for breadstuffs or biscuits. There are two alternatives: to eat the butter with diabetic biscuits, or to use it in cooking in a vegetable purée, in buttered eggs, or in an omelette. If it is desired to reduce the butter or cream, half an ounce of olive oil night and morning will supply 30 g. of fat and provide a substitute.

Only 20 g. of carbohydrate are allowed, and of this 10 g. have been used in the cream. The remaining 10 g. can be taken as fruit, a good vehicle for cream; or 5 g. may be given as fruit and 5 g. as milk in a custard, junket, or milk-jelly. In the American literature the patient is gradually broken into the diet by substituting fat for carbohydrates over some days, but this of course prolongs the agony, and in my experience embarking straightway on the full diet seldom leads to nausea.

However cunningly the diet be planned, the patient will ask how long he must endure it. In long-standing infection one to three weeks is commonly necessary to sterilise the urine. Most of my patients have continued the diet for a week after the urine was sterile. We do not yet know if it is necessary to persevere longer with the diet to avoid relapses. I find no mention of relapses in the American literature, but in one of my cases, a woman who did not attempt to diet after the urine had been sterile for four days, the infection returned a month later, to respond again to the diet. The permanence of these results has yet to be established.

In the absence of fever, exercise assists the oxidation of fat and helps the ketosis to develop. If the infection is associated with fever the patient may have difficulty in dealing with the diet, but this does not necessarily follow. Occasionally we have to await the fall of the temperature before dieting. The intake of fluids should not exceed the normal.

To cure a malady that has long resisted medical and surgical measures by nothing more troublesome than a typed diet sheet is sufficiently attractive to obscure for a moment the time and trouble essential to success in a treatment dependent on exact quantitative dieting. It is not enough to prescribe a diet high in fat and low in carbohydrates. Everything must be weighed. Apart too from the time absorbed in planning the diet in the required proportions and in presenting it in a palatable form, the practitioner may find it difficult to get the pH of the urine estimated. The pH of the urine of a person who is on a mixed diet is commonly between 6·0 and 7·0, precisely the pH most favourable to the growth of *B. coli*. Schohl and Janney found that colon bacilli are inhibited from growing in urine with a pH 4·6 to 5 on the acid side and 9·2 to 9·6 on the alkaline side. It is the purpose of the ketogenic diet to lower the pH to 5 or less. If the pH remains at 6 for example, either the patient belongs to the small minority who cannot digest or assimilate the amount of fat necessary to produce the ketone bodies in the urine, when the treatment must be abandoned, or the patient is not adhering strictly to the diet. Without the assistance of the pH one is working in the dark; the patient may be dieted for two or three weeks without once obtaining the pH necessary to inhibit the growth of the colon bacillus. It is as if one treated diabetes with only the symptoms of the disease as guidance and without any knowledge of the presence or absence of sugar in the urine.

We have found occasionally that the urine has been sterile before the pH fell to 5·0 or less. W. M. Clark noticed this and concluded that in a highly buffered medium such as urine while the hydrogen-ion concentration is the chief limiting factor, the urine may contain substances that have a bactericidal action independent of their acidity. But in practice estimations of the pH warn one when the conditions essential to success are absent, or enable one to assure the patient that perseverance with the diet will be rewarded.

Helmholtz has had very encouraging results with children, but I shall confine my remarks here to adults, and to adults in whom the infection has become chronic. During the past four months I have treated 20 patients in whom the duration of the infection with the colon bacillus has varied from 7 months to 18 years. From such a small number so recently discharged only tentative conclusions can be made. One patient relapsed as I have recorded, the urine again becoming sterile after renewed dieting. The course of the remainder was uneventful. The urine in all became sterile and has remained sterile. Early writers in American literature wrote that if the kidney is considerably damaged by infection the patient may be unable to secrete enough ketone bodies or to secrete a sufficiently acid urine to inhibit the growth of the bacteria. In my experience the duration of the infection has never been a barrier to the sterilisation of the urine. Moreover, tests of the functional efficiency of the kidney in these prolonged infections showed no impairment of function. Sufficient time has not elapsed to establish the permanency of these results, yet as they stand they are remarkable.

Mrs. A., aged 54. In 1914 after the birth of her second child had a severe attack of pyelitis with pus and colon bacilli in the urine. She was in bed for three months. From that date there is a history of severe attacks of pyelitis at intervals with severe renal pain and rigors. In 1925 the urinary tract was washed out with temporary improvement; this was repeated several times subsequently. From 1928 to 1931 the attacks had increased in frequency and severity. Early in June of this year she was given a ketogenic diet.

The pH came down to 5·0 and 5·2, but rose again gradually to 5·4 and 5·6 without any relaxation of the diet. On the 24th day of the treatment the urine was sterile. Her husband, a doctor, reported nearly four months later, "has greatly improved, no longer a chronic invalid, has put on 12 lb. in weight and the urine is still sterile." Hexamine, alkalis, urotropine, Caprokol, Cystopurin, Neotropin, Pyridium, and vaccines had been given a prolonged trial. From 1905 there was a history of severe sinus infection with repeated washings out of both antra, a radical operation on the ethmoid and sphenoidal cells, and finally the drainage of the right frontal sinus. While on the diet the advisability of further surgical measures was under consideration.

In another patient in whom the infection dated back 16 years the urine became sterile in three and a half weeks. A third woman with a history of repeated attacks over 13 years had had the urinary tract washed out in 1920, 1922, 1928, 1929, and 1930. The colon bacilli responded to the dieting, but a streptococcal infection of the urinary tract persisted. A fourth patient with an infection dating from a pregnancy four and a half years ago had sterile urine on the 23rd day. In a man who had had an innocent vesical papilloma removed and later after a stone had been extracted from the bladder had developed a fistula, an infection with Morgan's bacillus proved rather more obstinate, but the urine was found to be sterile after six weeks.

In bacilluria a large number of different gram-negative organisms are found. Of these the growth of the colon bacillus is most readily inhibited by the ketogenic diet. A bacteriological examination of the urine was carried out once a week by Captain Hayden. A positive ferric chloride test was accepted as evidence of an adequate ketosis. The use of the ketogenic diet over long periods in the treatment of epilepsy had brought assurance that no ill-effects followed the diet and none was noted in our experience. Most of the patients lost a few pounds in weight probably as the result of dehydration.

HEAD INJURIES AND THEIR SEQUELS

I.—(MR. HUGH CAIRNS)

II.—(DR. W. RUSSELL BRAIN)

I.—IN dealing with acute head injuries it is as well to move the patient straight from the scene of accident into a hospital or nursing home if possible. It is easier to impose rest upon the patient when in hospital, and besides it is impossible to say at the outset whether a case is going to need operation or not. On the way to the ward, have the skull of the patient radiographed. Although in recent years the amount of injury to the brain, and not the presence of fracture of the skull has come to be regarded as the important factor, this is not appreciated in a court of law, and the jury will always want to know whether the skull was fractured. Besides this, X rays will demonstrate the presence of a depressed fracture, and may show some unusual condition which would otherwise be missed.

One patient, a chauffeur, had been thrown head-on to a lamp-post. He was unconscious for five days, and on recovery showed signs of damage to the right optic and olfactory nerves. Some weeks later he developed weakness of the left arm and leg. Radiography showed a quantity of air inside his skull, and fracture of the right frontal sinus. He passed cerebro-spinal fluid from his nose whenever he sat up. At operation he was found to have an aerocele of the right frontal lobe of the cerebrum; a hollow needle was inserted and the brain collapsed with a puff. The dura had to be closed so as to prevent the further escape of cerebro-spinal fluid.

A man passing cerebro-spinal fluid from the nose is living on a volcano. In this case striated muscle-fibres were found in the fluid passed on the first day, which proved to have come from the sausage the patient had eaten for breakfast. The danger of infection of the meninges in such a case is naturally very great.

The first thing to do with a patient with an acute head injury is to put him to bed in a darkened room and to decide whether he needs to be treated medically or surgically. Routine observations must be made hourly of the pulse, temperature, and respiration, the state of unconsciousness—whether the patient is deeply unconscious or only stuporose—the state of the pupils, and any indications of paralysis. These observations must be committed to paper, for otherwise it is extremely difficult to avoid confusion after two or three hours. The general treatment for mild and doubtful cases is to ensure rest and give sedatives; a decompression can be undertaken if the symptoms require it.

A wound of the head may involve the scalp only or may lie over a fracture with injury to the dura. The patient with a head wound should be taken to the operating theatre as soon as he has recovered from shock, and the hair should be shaved away over a wide area round the injury. When the wound has been cleaned the underlying bone must be examined. If a linear fracture is present it is usually safe to leave it alone, but if there is any overlapping, however slight, a piece of bone must be taken out to see what is underneath. In one case, where the two edges of the fracture had slipped back almost into apposition after the accident, a quantity of manure was found inside the skull, having entered at the instant during which the bone gaped in the moment of injury. Foreign matter can be removed best by a suction apparatus. If the dura is torn it must be opened up and the underlying region must be cleaned with the suction apparatus. The wound must be drained; the dura should be loosely sutured and the drainage-tube brought down to, but not through it. Anti-tetanic serum should be given while the patient is under the anæsthetic; the head bandage must be firm and can be given a covering of plaster-of-Paris, since these patients are sometimes violent when they recover consciousness. It is an open question whether operation should be undertaken for simple depressed fracture. If the depression of the fracture is deep it is advisable to operate, but there is no necessity for urgent action.

Tearing of the middle meningeal artery is rare, and too much emphasis has been laid upon it as a cause of intracranial hæmorrhage. The striking course which these cases run has helped to make them notable. The patient has a slight head injury, is concussed for a moment and then appears to make a complete recovery; after a few hours he loses consciousness and may show Jacksonian fits. Intracranial hæmorrhage from other vessels, however, produces rapidly deepening unconsciousness after a lucid interval in the same way. The treatment is to make a small hole in the skull and look for a clot; it is commoner to find a subdural than an extradural hæmorrhage. If a clot is found the hole must be enlarged and the blood sucked out.

Intracerebral hæmorrhage sometimes occurs from direct injury, for example when a baby at a cricket match receives a boundary hit on the skull. Symptoms may include advancing paralysis, sensory loss, and papillœdema. In such cases it is worth operating for intracerebral hæmorrhage, for it is possible to remove the clot. In cases of focal contusion, though it is not essential, it may be useful to operate,

because decompression helps the condition to clear up, and if it is performed under the temporal muscle the bone defect can be well protected. Chronic subdural hæmatoma often follows a trivial rather than a severe head injury. About a month after the accident the patient becomes irritable and drowsy and complains of headache and weakness of one arm and leg. A gradually enlarging clot is pressing on the surface of the hemisphere causing these slowly advancing symptoms. The bleeding is usually from cerebral veins which have been torn as they go through the dura to the longitudinal sinus. The treatment is to make a small hole on each side of the skull and, when the clot is located, to suck it out. Only exceptional cases of head injury need surgical treatment; in most cases operation plays no part.

(DR. W. RUSSELL BRAIN)

II.—CONCUSSION is a paralysis of part of the function of the central nervous system due to a blow on the head. Recovery takes place unless the vital centres in the medulla are paralysed. Cerebral contusion is the commonest form of head injury; it is associated with hæmorrhages of varying size scattered through the cortex, and œdema round the nerve-cells and in the perivascular spaces. Laceration is a breach in continuity of the brain substance, usually the cortex, which may give rise to focal symptoms. Traumatic cerebral compression is usually due to hæmorrhage.

In mild cases the patient with concussion is dazed; he may finish playing a game of football and recall nothing of it afterwards. In more severe cases he loses consciousness and may die from medullary paralysis; most patients, however, recover within 48 hours. Contusion may occur without concussion, but in severe cases the patient is concussed as well. After recovering consciousness the patient becomes confused, irritable, and excitable, and may complain of headache; occasionally mental symptoms persist and a mild maniacal condition supervenes.

One patient of this kind whenever he met three people walking together in the street felt impelled to attack them, though two or four left him undisturbed; he also felt moved to plunge table knives into people in order to experience the sense of suction as he drew the knife out of the flesh.

In other cases there may be monoplegia and sensory or visual symptoms. An important group of patients are those with symptoms due to contusion of the mid-brain; there may be diplopia, mild cerebellar symptoms or, rarely, symptoms of diabetes insipidus. Mild forms of this appear to be commoner after head injury than is generally suspected. The urinary output should therefore be measured in all cases. In severe cases pituitrin will be required indefinitely.

Focal lesions of the spinal cord may also follow a blow on the head, and hæmorrhage into the spinal cord should be borne in mind when symptoms of paralysis develop after a head injury. Lumbar puncture should be performed in all cases of head injury, and in severe cases blood will be found in the cerebro-spinal fluid. The pressure of the fluid should be measured with a manometer; it will usually be raised but sometimes it is subnormal, and here the treatment has to be modified slightly, as I shall presently describe.

Concussion is rarely fatal. Contusion may prove fatal, but is more important as a cause of prolonged disability. In one series of cases of contusion it was found that 10 per cent. of the patients were totally incapacitated, and more than half were unable to return to their normal occupations.

The treatment of concussion is to keep the patient in bed in a darkened room and give sedatives and analgesics; a saline purge helps to relieve the intracranial pressure. Three or four days at least should be spent in bed, and longer if possible, because some degree of contusion may also be present. Even mild cases of contusion require three or four weeks in bed. The method of cerebral dehydration by intravenous injection of hypertonic solutions of salt or glucose is disappointing; the perivascular spaces in the brain are probably too closely packed with blood or œdema for the normal mechanism of absorption to act. There is no harm in giving hypertonic solutions of magnesium sulphate by the rectum.

If, on performing lumbar puncture, the pressure of the cerebro-spinal fluid is found to be raised the patient will be more comfortable propped up with pillows; if, on the other hand, the pressure is low, the patient should lie flat without a pillow and with the foot of the bed raised on blocks; he should also be given plenty of fluid, drinking, if possible, a gallon a day. Air can be injected into the spinal canal through a lumbar puncture needle to raise the pressure, but I have found this method disappointing.

Often people who have had head injuries complain of disabling symptoms when they are up and about again. Paroxysmal pain in the head, worse on stooping, is a common complaint, and giddiness, irritability, nervousness, and incapacity for work are other symptoms. These symptoms are organic and not due to neurosis. Prolonged rest in bed is required in such cases; and bromide and magnesium sulphate should be given.

Other late effects of head injuries are cranial nerve palsies. Each nostril should be tested separately for loss of the olfactory sense, since anosmia usually indicates a fracture involving the anterior fossa.

Injury of the optic nerve is followed by atrophy of the damaged fibres and a corresponding permanent impairment of vision. The prognosis is disappointing when there is injury to the nerves supplying the muscles of the eyeball. The seventh and eighth nerves may be involved in fracture of the mastoid process, and are then unlikely to recover; but branches of the fifth and seventh nerves may be contused by a blow on the face, and in these cases complete recovery occurs.

Traumatic epilepsy is comparatively rare in civil life; during the war 5 to 10 per cent. of cases developed the condition following gunshot wounds of the head. It is most likely to arise when the dura has been torn and formed scars. The treatment should be medical for at least two or three years, and only in exceptional cases should surgical interference be considered.

NEW SUSSEX HOSPITAL FOR WOMEN, BRIGHTON.—On Oct. 11th Lady Campion, chairman of the governors, reopened a ward which for two years had been closed but which Mr. C. H. Corbett, the hon. treasurer, has now redecorated and re-equipped in memory of his wife. It will be known as the Marie Corbett ward, and be used for patients reaching the convalescent stage, in whom Mrs. Corbett had always been greatly interested.

REDUCED COSTS AT COVENTRY.—During the first eight months of the present year the cost of provisions at the Coventry and Warwickshire Hospital has been reduced from £5052 in the corresponding period of last year to £4383. There has also been a saving at the Alcock Convalescent Hospital. The cost per patient per day at the main hospital has thus been lowered from 21·4*d.* to 16·3*d.* Supplies are now purchased personally by members of the staff in the market.

SPECIAL ARTICLES

MEDICINE AND THE LAW

Criminal Abortion: Evidence of Previous Conviction

Richard William Starkie, sentenced at the Central Criminal Court last July on a charge of having unlawfully used an instrument with intent to procure miscarriage, has been refused leave to appeal. His application for this purpose, disposed of by the Court of Criminal Appeal on Oct. 17th, raised a novel and interesting point. His counsel at the trial had elicited the fact that the accused had once been a registered medical practitioner; the fact that his name had been struck off the Medical Register (under Section 29 of the Medical Act) was thus disclosed, but was apparently explained by a statement that he had fallen foul of the medical authorities. Did this amount to giving evidence to establish his own good character? If so, it enabled the prosecution to cross-examine him as to a previous conviction in 1921 for administering drugs with intent to procure miscarriage. Starkie asked for leave to appeal on two grounds, one of which was that this cross-examination should not have been allowed.

The Criminal Evidence Act of 1898, which enabled accused persons to go into the witness-box and give evidence on their own behalf, enacted that, with certain exceptions, they must not be asked any question tending to show that they are of bad character or have committed, or have been convicted of, any offence other than that with which they are charged. One of the specified exceptions allows such questions if the accused has given evidence of his good character, or if the nature or conduct of the defence is such as to involve imputations on the character of witnesses for the prosecution. The scope of this exception is not easy to define. If a man accused of rape suggests that the prosecutrix consented, he can be cross-examined as to previous convictions. On the other hand, if the accused merely says that the prosecutor is a liar or complains that a constable, in arresting him, used improper violence, or alleges that the police have fabricated their evidence, these suggestions have been held not to justify cross-examination as to previous offences. In general, of course, those who administer criminal law in England are scrupulous in maintaining the principle that the fact that a man has committed one crime is not to be taken as evidence that he has committed another. In 1912 an appeal was allowed where a previous conviction had been elicited by questions put by the judge himself at trial while he was trying to help the accused to defend himself. In Starkie's case it might possibly have been argued that for him to give evidence of his name having been removed from the Medical Register amounted to establishing bad character rather than good. Apparently, however, it was taken to have involved an attempt to suggest that he was right and the General Medical Council was wrong. At any rate, Mr. Justice Goddard, in announcing the decision to refuse leave to appeal, said "in the opinion of the Court the applicant was rightly cross-examined as to his previous character because he had put his character in issue by stating that he had been a registered medical practitioner and had fallen foul of the Medical Association."

The other ground of Starkie's unsuccessful application was that the trial judge had not, in his summing-up, dealt fully enough with the defence. Starkie's defence was that he was treating a girl whom he did not know to be pregnant. The Court of Criminal Appeal ruled that the trial judge had fairly and fully put the case for the defence as well as the case for the prosecution. It was clear that there was evidence before the jury, which they were entitled to accept if they saw fit, that the girl had had a miscarriage and that an instrument had been used upon her. The only remaining question was whether Starkie was the person who used the instrument. The girl's evidence was corroborated, and there was abundant evidence on which the jury could find that the accused had committed the offence. The Court of Criminal Appeal does not sit to re-try cases. If the proceedings at the trial were in order, and there was adequate evidence on which the jury could find a verdict of guilty, and if the judge's summing-up reasonably covers the necessary ground and does not go wrong in stating the law, the appellate tribunal declines to interfere.

AUSTRALASIA

(FROM OUR OWN CORRESPONDENT)

TROPICAL DISEASE IN THE COMMONWEALTH

AUSTRALIA'S tropical dependencies contain a larger purely white population than any other tropical country, and comprise an area of 1,332,320 square miles. In a presidential address to the section of medicine of the Australian and New Zealand Association for the Advancement of Science, which met in Sydney in August, Dr. R. W. Cilento pointed out that the Australian tropics are of the greatest importance to the Commonwealth because they are within easy striking distance of the world's largest endemic centres of small-pox, cholera, and plague, besides which there is the problem of malaria, dysentery, yellow fever, dengue, ankylostomiasis, and filariasis. Malaria seems to have been introduced by the Malays from the Dutch East Indies, and apparently there was no indigenous disease in the northern part of Australia during the early period of settlement. At a later period Pacific island natives were imported to work on the Queensland plantations and a large number of Chinese were introduced, and it was to this influx of aliens that Australia owed its tropical diseases. This is evidence, Dr. Cilento remarked, not so much of the unsuitability of the tropics for white men, but of the results that follow the introduction among them of a disease-ridden class of coloured indentured labour. The introduction of these aliens was discontinued when the White Australia policy was adopted.

Malaria occurrs in the north-west and in two areas in Queensland. Although this is probably an unimportant part of Australia, there is a possibility of its becoming dangerous, Dr. Cilento thinks, should there be any sudden concentration of population in the endemic areas, or if hygienic control is slackened. Filariasis was probably introduced with Kanaka labour in 1863, and now 40–60 cases are admitted annually to the Brisbane Hospital, while it has been found that 15 per cent. of the patients in the surgical wards of the Brisbane Hospital are infected with microfilarial disease. Inland towns are apparently unaffected. Elephantiasis is very rare in Queensland, and as a result of the measures taken in treatment and

prophylaxis the incidence of hookworm in that State had greatly decreased, so that it now appeared to be under control as far as the white population was concerned. Amongst the other diseases found in the north-eastern part of Queensland were typhoid, paratyphoid, endemic dengue fever, endemic typhus fever (Brill's disease). An increase in the number of known lepers in North Queensland and in the Northern Territory had taken place, and food-deficiency disease and trachoma were still to be found.

Experienced observers, Dr. Cilento said, have no doubt of the ability of white persons to adapt themselves to tropical climates, and the successful colonisation of tropical parts of Australia is essentially a problem of applied public health.

DEPOPULATION IN THE PACIFIC

Sir Hubert Murray, president of the Association, said that there is no evidence of any alteration during the last hundred years in the total population of Papua, of which he is Lieutenant-Governor. In the eastern and south-eastern divisions of the island, however, the population is known to be declining, and the fall is attributed, amongst other things, to a general shortage of food. He alluded to the belief among women that their children are killed by evil spirits, but spoke of a strong public opinion that there is something disgraceful in having a large family. Sir Hubert himself laid most stress on insufficient food-supply, sickness, and the passing of the old native customs. So far as Papua was concerned, it is expected that some tribes will die out altogether, but that the more resistant stocks will remain, and their natural increase will be more than sufficient to make up any loss.

In New Zealand, said Dr. Wi Repa, before the invasion by western civilisation, the Maori were a healthy race. The change from the old order to the new suddenly bridged a gulf of centuries, and the people found some difficulty in adapting themselves. War, pestilence, sterility, high infantile mortality, and the loss of ancestral lands caused such a decrease that at one time it was feared that the race would die out. But since the beginning of this century the Maori population has increased.

Dr. Cilento maintained that where the natives are only rarely visited by the white men they flourished, but the influence of contact with Europeans, with its restriction of many of the native customs, results for the most part in decline. Conditions in New Guinea have convinced him that the three main factors of depopulation are the heavy infantile death-rate, the considerable mortality at all ages from preventable diseases, and the fact the most of the people live on a borderline diet alternating between periods of plenty and periods of actual starvation. The various permanent causes in operation are introduced or aggravated disease (especially malaria or tuberculosis), bad sanitation, privation, and poverty of diet, and as a consequence lessened fertility with frequent miscarriage, deliberate abortion, and infanticide. The idea that a foreign race would revivify a weak or unhealthy population by introducing new blood is, he thinks, a fallacy. Dr. Raymond Firth discussed particularly the natives of the island of Tikopia, where the population tends to increase, but is limited by celibacy, contraception, abortion, and infanticide. Here epidemics occur only after the occasional visit of some vessel. Mr. E. W. P. Chinnery believed that intensive medical supervision, a properly organised scheme for infantile welfare, and the introduction of new plant foods would do much to reduce the mortality.

According to Mr. Burton, native policy in Australia has resulted in a decline of the aboriginal population from 300,000 in 1788 to 62,000 in 1930—or 80,000 if half-castes are included. He urged that caution and care should be exercised by Australia in her management of the races in the mandated territory.

RESUSCITATION IN DROWNING

In opening a discussion on resuscitation in drowning, Prof. H. Whitridge Davies said that tests showed that the Schafer method of resuscitation, as ordinarily applied, gives more than adequate ventilation of the lungs. He had investigated the extent to which dehydration occurred in drowning, and had found an increased salinity in the blood on the left side of the heart in animals drowned in salt water. The experiments strongly favour the giving of large quantities of water to patients after resuscitation. He also advises the administration of 5 per cent. carbon dioxide in oxygen during resuscitation, and demonstrated an apparatus which he had devised for this purpose. Dr. V. M. Coppleson said that on the Sydney beaches during the past four years in a large number of rescues, resuscitation had been necessary in 74 cases, and there had been 2 deaths. On country beaches there had been 146 resuscitations with 9 deaths. It was apparent that two kinds of training were necessary, according to whether the measures were to be taken by an isolated person or by one with ample assistance, as on the larger beaches. The rubbing of patients, as advocated by the Surf Life Saving Association and the Royal Life Saving Society, is, he said, an anachronism, and the covering of patients with warm blankets or clothing and drying them is of infinitely greater value.

The statement was made that one might expect an excess of carbon dioxide in the blood in drowning; to which Dr. C. H. Kellaway replied that during resuscitation there was excessive ventilation of the lungs. Hence its administration for a brief period might be useful.

IRELAND

(FROM OUR OWN CORRESPONDENT)

THE HOSPITAL PROBLEM

THE Government of the Irish Free State sprang a surprise last week on those who are interested in the hospitals, when Dr. Ward, Parliamentary Secretary to the Minister for Local Government and Public Health, announced that no more disbursements would be made from the sweepstakes funds until the whole hospital problem of the country had been studied, and that it was the intention of the Government to appoint a commission for the purpose. The announcement was made in the course of a debate on a private Bill, introduced by Mr. T. J. Murphy, a Labour Member for a division of County Cork. The object of Mr. Murphy's Bill was to ensure that hospitals benefiting from the sweepstakes would keep at least 25 per cent. of their beds for free patients. Hospitals cannot share in the benefits unless they are able to show that in the previous year they had kept 25 per cent. of their beds free or for patients paying less than 10s. a week, but there is no power at present to ensure that they should continue to do so, and the Bill was intended to remedy that omission. According to Mr. Murphy certain hospitals were refusing treatment to patients unless they could contribute at least £2 per week. Dr. Ward agreed that there was a class of

people not entitled to free treatment, but who could not afford to pay the ordinary hospital charges, and the position in that regard was not satisfactory. He was of opinion that the best possible advantage had not been taken of the opportunity afforded by the sweepstakes. The different hospitals in competition with one another developed along parallel lines, and they were not securing the highly specialised accommodation and equipment that was looked for. That and other aspects of the matter had been given a considerable amount of attention, and it was intended to introduce a Government measure calculated to secure better results out of the moneys available. He added that it was not intended to make any further disbursements until the entire situation had been examined. The new legislation, which he promised, would set up a Hospitals Commission to review the hospital situation in the area of the Irish Free State and make recommendations as to the manner and amount of the allocations to be made in the future. He suggested the postponement of Mr. Murphy's measure, and this was agreed to after the Bill had been given a second reading. In the discussion, Mr. FitzGerald-Kenney, formerly Minister for Justice, and in that capacity responsible for the control of the earlier sweepstakes, hoped that an effort would be made in the direction of amalgamation of hospitals. Such a change would lead to greater efficiency and economy. He was certain that when the hospitals were in a position to do so they would deal generously with the poor, for the hospitals and boards of management were not out to make money, but to make ends meet. He drew attention to the needs of the middle class, and he hoped that the hospitals, when they could, would make a real attempt to meet their case.

Everyone must agree with the views of the Parliamentary Secretary that the best use has not been made of the opportunities provided by the sweepstakes. As the Committee of Reference pointed out, there has been no attempt to make a survey of the needs of the community and devise a system to meet those needs, and there has been no attempt to coördinate the activities of the several institutions. It is therefore natural that a commission should be appointed to bring order out of a threatened chaos. It might have been better if the hospitals had themselves asked for such a commission, but those charged with the management of the hospitals have unfortunately shown little appreciation of the magnitude of the problem, and have been content to continue and develop their work on traditional lines. There was, indeed, a danger that the endowments received from the sweepstakes, while relieving present necessities and providing improved accommodation and equipment, might have resulted in perpetuating an outworn system.

CONTROL OF THERAPEUTIC SUBSTANCES

The Minister for Local Government and Public Health of the Irish Free State introduced to the Dáil last week a Bill to regulate the manufacture, import, and sale of therapeutic substances, its short title being the Therapeutic Substances Bill, 1932. The substances enumerated in the schedule to the Bill are vaccines, sera, toxins, antitoxins, antigens, salvarsan and analogous substances, insulin, and pituitary preparations. The Bill provides that an advisory committee shall be appointed to assist the Minister in his duties under the Act. The advisory committee is to consist of ten members, one to be appointed by the Minister for Local Government and Public Health, one by the Minister for Agriculture, and one each by the following bodies: the University of Dublin, the National University of Ireland, the Medical Registration Council, the Royal College of Physicians of Ireland, the Irish Medical Association, the Veterinary Council, the Pharmaceutical Society of Ireland, and the Institute of Chemists. The Minister may declare any therapeutic substance, the purity or potency of which cannot be adequately tested by chemical means, to be a therapeutic substance to which the Act will apply. He may make regulations as to the standards of tests to be applied to such substances. No therapeutic substance to which the Act applies may be manufactured for sale or imported for sale except under licence from the Minister. A licence to import a therapeutic substance to which the Act applies will specify the names of manufacturers from whom the applicant imports, and will only be granted on the written undertaking of the manufacturer that he will comply with the conditions prescribed by the Minister. The right of a medical practitioner to prepare a therapeutic substance with reference to the condition, and for the use, of an individual patient is safeguarded. It is certainly desirable that the substances to which the Bill applies should be under some form of control in order to ensure purity and safety, and to guard against fraud, but there is a danger that the Act may place undue restrictions in the way of rapid importation of certain substances. At the present moment few, if any, of the substances are manufactured for sale in the Irish Free State.

PLAYING FIELDS OF THE COLLEGE OF SURGEONS

On Oct. 22nd Mr. F. C. Crawley, president of the Royal College of Surgeons in Ireland, declared open the pavilion and new playing fields of the College. The fields are about two miles from the College, with convenient bus service, and are some 16 acres in extent. They have been admirably laid out, under the supervision of Mr. Alfred Miller, registrar of the College, with accommodation for football and hockey for men and women. Tennis-courts and a swimming pool are to be added. The pavilions are roomy and well-equipped. Several distinguished guests, including the Lord Mayor of Dublin, were present at the opening ceremony.

THE SERVICES

ROYAL NAVAL MEDICAL SERVICE

Surg. Comdr. O. J. M. Kerrigan is placed on retd. list at his own request.

Surg. Comdr. (D) (retd.) H. M. Meek to be Surg. Capt. (D) (retd.).

Surg. Lts. G. A. Miller, T. B. Lynagh, and E. E. Malone to be Surg. Lt.-Comdrs.

The following appointments are notified: Surg. Lt.-Comdr. D. H. Kernohan to *Cambrian*, and Surg. Lt. P. M. McSwiney to *Pembroke*, for R.N.B.

ROYAL NAVAL VOLUNTEER RESERVE

Proby. Surg. Sub-Lt. G. F. Jones is confirmed in rank.

ROYAL ARMY MEDICAL CORPS

Maj.-Gen. O. L. Robinson, retd. pay, late R.A.M.C., is apptd. Col. Comdt., vice Lt.-Gen. Sir Charles H. Burtchaell, ret. pay, late R.A.M.C. (decd.).

INDIAN MEDICAL SERVICE

Lt. G. Milne to be Capt.

The probationary appts. of the undermentioned officers are confirmed. To be Lts.: E. H. Lossing, G. W. Miller, and D. G. McCaully.

ROYAL AIR FORCE

The undermentioned Flying Officers are promoted to the rank of Flight Lts.: S. C. Allen and F. F. Kennedy.

Flight Lt. C. F. Pitt relinquishes his temporary commission on completion of duty.

PANEL AND CONTRACT PRACTICE

ANNUAL PANEL CONFERENCE

THE annual conference of representatives of local medical and panel committees was held in the Great Hall of B.M.A. House on Oct. 20th, with Dr. H. C. JONAS (Barnstaple) in the chair.

Fees for Anæsthetists: Local Option

The question whether a practitioner who brings in a colleague to administer an anæsthetic should be reimbursed with the fee of that colleague has long been a matter of controversy. Following the I.A.C. model scheme, all areas provide in their distribution schemes that the fee shall be paid from the local practitioners' fund, and the amounts vary from two guineas to half a guinea, the large majority of areas paying one guinea. The opposition from various quarters has however been so strong that this year the I.A.C. decided to recommend the conference to delete this clause. Keen discussion was aroused.

Dr. G. J. B. CANDLER-HOPE (Yorks, N.R.) moved an amendment that the medical benefit consolidated regulations be altered to put the administration of anæsthetics outside the terms of medical benefit. He said that before the Act had come in, Yorkshire, anticipating that the money would come into the hands of a comparatively small number of practitioners, had decided not to admit claims for repayment of anæsthetists' fees. His committee had always contended that anæsthetics were a treatment outside the Act; under the contract the insured person was entitled to treatment from his panel doctor and not from two practitioners.

Dr. R. WARING TAYLOR (Oxon) said that in his county practitioners did this service for each other as "good pals." Formerly 100 per cent. of the claims had come from two people, and when seven years ago this had been realised, the committee had decided to have no more of it.

Dr. W. A. GREGG (London), while admitting the theoretical truth of Dr. Candler-Hope's proposition, pointed out its practical irrelevance, and the motion was lost.

Dr. A. N. FELL (Essex) then moved an amendment advocating that each panel committee should be given local option to pay or not to pay; this motion included the sense of another one by Surrey. He pointed out that in a county where men worked in partnership and staffed their own hospitals the fee might properly be paid; each panel committee could be trusted to keep its own men in order.—Dr. PETER MACDONALD (York), in support, maintained that this system would check all abuse and would leave areas like his own free to go on as they were going if they so desired.—Dr. R. L. E. DOWNER (Shropshire), discussing the suggestion that partners made most of the profit out of payment for anæsthetics, said that it was natural that partners should coöperate, and that it would be a great pity if there were not at least some advantage in having a partner. There was no reason, he said, why single-handed practitioners should not use this scheme to the full, nor why friendly colleagues—who existed in some places—should not come to a friendly arrangement to pool each other's proceeds.—Dr. A. LYNDON (Surrey) objected to the motion of the I.A.C., which he said had been carried by a majority of 3 members only in 29. Their resolution, he said, had merely voiced the London view. It would handicap the single-handed practitioner, and he hoped that the Essex amendment would succeed.

Dr. E. A. GREGG (London) complained that Essex was paying no attention to the needs of industrial areas like London, where people who had a commercially run practice exploited the scheme for what they could get out of it. He objected to having to contract out of the general arrangement that fees should be paid; committees which wanted to pay fees should, he considered, make their own domestic arrangements.—Sir HENRY BRACKENBURY (Chairman of Council) warned the conference that the I.A.C. had taken a muddled vote and that the conference should be careful to give a clear-cut vote on a clear-cut issue. The Essex proposition for local option might mean local option whether there should be any anæsthetic fee at all, or simply on what the fee should be. Did the conference wish to keep the status quo—the latter alternative—or to allow committees to abolish the fee altogether, or to fix a fee of 1s., as London had? The I.A.C. had voted for no fee at all as an alternative to fixing a fee of 1s.—i.e., reducing the fee to an absurdity.

Dr. N. W. RENTON (Kent) declared that his county had had Home Rule since 1066, when it had not surrendered, and it did not wish to be dominated by the London area. It had no clinics or hospitals to do its practitioners' work for them. A fee of 1s. would be a low form of commercialism, but a worse thing was the suggestion that one set of medical men would give anæsthetics merely in order to get a fee (A London representative: "It is true!"). It was not true in Kent, and if the profession had no means of checking the tendency within itself, Heaven help it!

Dr. A. BEAUCHAMP (Birmingham) pointed out that general practitioners wanted to keep as much work as possible in their own hands. He feared that if the motion of the I.A.C. were passed many men would send patients to hospital whom they could treat themselves. Local option would enable committees to cut out abuse; if they found that certain firms were getting too much they should cut them out—(A London representative: "How"?)—by reducing the fee to an unprofitable level.

Dr. JAMES ARTHUR (Northants), on the other hand, supported the resolution of the I.A.C. In 1928 his committee, perturbed by the large number of claims, had reduced the fee to half a guinea for gas and a guinea for other anæsthetics. The result had been a reduction in the total value but not in the number of claims. The figures on analysis had proved somewhat similar to those of London: single-handed practitioners had made only about 8 per cent. and more than half the claims had come from a small group of partnerships. Remonstrance had only increased the number of claims, and the committee had, therefore, this year asked for the deletion of the clause. It intended to proceed as it had for emergency treatment—by the friendly method of each practitioner helping his colleagues at need.

Dr. C. H. PANTING (Essex) wished to keep the option in the hands of the local committee, as he considered that it was very dangerous for committees to surrender power or responsibility. The anæsthetic fee only represented 0·6 per cent. of the whole of the pool; to abolish the fee would not be beneficial to the patient, and the committees could deal with exploitation by close scrutiny and, when they saw fit, by refusal to pay.

After Dr. S. P. HUGGINS (Bucks) had testified to how well his county got on without any claims, and Dr. FELL had emphasised that his motion

was intended to empower a committee to refuse a fee, the Essex amendment was passed by a very considerable majority.

The Essex proposal for local option then came before the conference as a substantive motion, and an amendment was moved by Dr. RENTON (Kent) to refer the matter back to the I.A.C.—Dr. DAIN, however, vigorously opposed a reference back without a definite direction from the conference, and the amendment was withdrawn.—A motion by Dr. J. O. SUMMERHAYES (East Sussex) to adhere to the status quo was defeated after strong opposition had been expressed by Dr. GREGG (London), whose committee object strongly to sitting in judgment on their colleagues in questions of treatment, and by Dr. P. MACDONALD (York), who supported the Essex motion and pointed out how it would help London. —The conference was not even moved by the warning of Sir H. BRACKENBURY and Dr. L. J. PICTON (Cheshire) that such a decision would make the Essex proposal mandatory on the I.A.C.—The principle of local option was then carried by a very large majority.

An Attractive Pension Scheme

Dr. DAIN reminded the conference that it had often expressed the desire for a pension scheme for panel practitioners, and that as a result of a resolution passed by it in the previous year the I.A.C. had consulted persons familiar with group insurances and with the needs of medical men, and were now able to put forward a scheme which offered a series of benefits especially suitable to men in insurance practice. Exceptionally favourable terms had been obtained by limiting participation to three companies which had made the most acceptable offer. Their proposals were identical and the opportunities of enrolling members would be divided equally between them, but members would have free choice. Dr. Dain then moved a series of motions against invoking the assistance of the Government, against compulsory deductions from the quarterly cheques for premiums, and against monopoly by any one company.

Dr. GREGG (London) opposed the first motion on the ground that the time might come when the I.A.C., in bargaining with the Government, might find it very useful to accept a pension scheme instead of, for instance, an increase of 6*d.* in the capitation fee which the Government were unwilling to grant; the conference, however, agreed to the motion and also to the second proposition.—Dr. W. G. THWAITES (Brighton) feared that three companies might constitute a monopoly almost as considerable as one, but Dr. DAIN pointed out that the companies concerned could only offer the present exceptionally generous terms if they were protected from further competition, and Dr. THWAITES withdrew the Brighton objection.

In reply to a question by Sir H. BRACKENBURY, Dr. DAIN explained further that the I.A.C. had originally asked seven firms to tender, and that the other four had replied that they were not prepared to do this kind of business. A fourth company had offered to participate at a much later stage, but in fairness to the original three it had been excluded. He explained a few of the principal advantages of the scheme.[1] A medical examination would not, he said, be required in the ordinary way, but only for exceptional reasons. The chairman urged that the conference should not merely agree to the adoption of the policy by insurance practitioners, but that every member should vote. The conference thereupon adopted it, only one hand being raised in dissent.

[1] See THE LANCET, Sept. 3rd, p. 537.

The Defence Trust

Mr. N. BISHOP HARMAN (treasurer) announced that 71 per cent. of the quota (£250,000) had been subscribed, and in good-humoured but vigorous language praised the committees which had subscribed all or nearly all their contribution and criticised the laggards and disaffected.—Dr. DAIN, in corroboration, sympathised with committees which frankly considered the trust useless, and promised to undertake persuasive measures, but strongly condemned areas which continued to profit by everything which the organisation offered, such as membership of the conference and electoral franchise, but would give nothing in return. He hoped, he said, to give reasons next year why each individual committee had refused to subscribe, and Dr. A. E. LARKING (Hastings) expressed the view that refusal was generally due, not to any lack of public spirit, but simply to ignorance of the purposes for which the money was collected.

After the conference had adopted the report and accounts of the trust, Dr. DAIN emphasised the importance of keeping the fund a live one and of not merely stopping when the first quota had been subscribed. He therefore moved that committees which had completed their quota should be asked to send further contributions in respect of those practitioners who had contributed for less than ten years, so that each would have contributed for that period.

Dr. J. E. BATES (Surrey) moved that committees that had completed their quota should not be asked to contribute further. He explained that as a private individual he disagreed entirely with this amendment, but that it had been carried through the Surrey committee by the overwhelming vote of the younger members.

Dr. T. S. LAIRD (Lanarkshire), however, agreed with Surrey's amendment. His committee, he said, had been one of the earliest to pay its full quota; it felt that those who had failed to contribute were being dealt with far too mildly. The I.A.C. would be surprised at the amount of money the local committees would put up if they really believed it was needed, but until the laggards came into line Lanarkshire would not send another penny.—Nevertheless, the Surrey amendment was defeated and the motion carried by a large majority.

The question of the ways in which the fund should be applied aroused considerable discussion. Dr. J. H. CARDALE (London) moved that the profession should consider its policy concerning the future of the trust and define the purpose to which the funds should be applied.—Dr. DAIN replied that he had been preaching for several years the importance of taking a big view of the fund, and of making it live and useful to members. A quarter of a million would be no use in a fight, but it was a nest-egg from which to start. In the case of real need he believed that Lanarkshire was right and that an unexpectedly large amount of money would be available, but it was necessary to enlarge the fund at the disposal of the trust and to spend its interest in wise and useful ways. The trustees could not accept dictation from any other body on the disposal of the fund, for they were responsible to deal with the money under the terms of the trust, but the voice of the panel committees would naturally be heard and might be paramount in the work. He suggested a reference to the trustees, who would issue a statement of policy in the coming year; and the London representative agreed.

It was not easy to understand the motives underlying the present views of the conference on the

spending of the interest. It rejected the modest suggestion of the I.A.C. to spend £150 a year on lectures to medical students concerning their future duties as panel practitioners, although Dr. Dain and others pointed out the advantages of being able to employ locum tenents who would at any rate know the elements of panel prescribing and the keeping of panel records and would not be a continual source of anxiety. On the other hand, it agreed to the proposal of the I.A.C. to try for a year the policy of assisting the retirement of aged and infirm practitioners of very straitened means against whose work a complaint had been made.

It considered, however, that the fund might suitably be employed to anticipate the extension by the State of the national health medical service for dependents. East Sussex, in the person of Dr. SUMMERHAYES, moved a resolution that the I.A.C., in collaboration with the B.M.A., should urge and assist in the effective development of coördinated public medical and similar services, where necessary by means of loans from the trust income, and report progress to the next conference. Dr. Summerhayes told the conference that the motion had originated with Dr. R. Fothergill. The profession, he thought, should be in a position to oppose any State scheme to which it objected, and it could only do so if it already had an alternative in full working order. The difficulties were apathy, lack of time, lack of money, and lack of experience; if the I.A.C. and the B.M.A. appointed a subcommittee to conduct the scheme, these objections would be met. The scheme should be linked up with all others in existence. In this way the family doctor, who alone knew the patients, would be in full and continuous charge of them. There was still time for the profession to protect itself, but if the State were to move to-morrow, the profession would be "in the soup."

Sir HENRY BRACKENBURY outlined the work of the B.M.A., with which he said the matter chiefly rested. He suggested that the motion did not fully state the reasons for this important movement, and suggested a change in the wording:—

"That, in order that the medical profession may be in a better position to assist in the formulation at the appropriate time of a satisfactory scheme for the extension of the National Health Service for the dependents of insured persons and others of like economic status, the trustees of the National Insurance Defence Trust be requested to collaborate with the British Medical Association in assisting the effective development of public medical services."

The policy of the I.A.C. was, he said, the extension of an insurance scheme to dependents. These services were not being set up to combat that policy, but in order to meet the immediate requirements of the people concerned and as a means of gaining experience and of ascertaining the features which ought to be embodied in a national scheme. This resolution was adopted by the conference without further discussion.

Other Business

The chairman of the conference was elected its representative on the new conjoint committee of Epsom College.

The conference agreed with acclamation to a motion by Warrington that no further deductions from the capitation fee should be accepted, and that the fee of 9*s*. should be restored as soon as circumstances permit. Dundee moved that no extension of range of service should be accepted without increased remuneration, but the conference shared Dr. Dain's view that a general practitioner must do the best for his patients whether they were private or insured, and the motion was withdrawn.

CORRESPONDENCE

THE POLICY OF SCHOOL-CLOSURE

To the Editor of THE LANCET

SIR,—In your leading article (last week, p. 903) on the closing of Stowe you rightly give first place to the interests of the community in general, while admitting that the school was most concerned with the particular interests of its boys. I should like you to know, however, that the school was by no means indifferent to the interests of the community. The memorandum which I sent to all parents on the dispersal of the school contained the following passage:—

"The dispersal of the school may seem to involve some danger to the community. But this will not be so if two conditions are fulfilled: (1) that every boy shall be kept away from intimate contact with other young people for three weeks from the day he leaves here; (2) that the local medical officer of health shall be informed at once of the boy's arrival in his area.

"I earnestly hope that these two conditions will be loyally observed."

In addition a letter from the school medical officer to the home doctor was sent to every household.

The collection of information about any cases of poliomyelitis which may occur in houses to which Stowe boys have returned this month should not be a difficult task, and I fully realise its importance. We shall be happy to coöperate in any inquiries which the Ministry may wish to set on foot.

It should be remembered by our medical critics that even in the interests of the community no school can forcibly retain its boys if their parents wish to remove them.

I am, Sir, yours faithfully,

J. F. ROXBURGH,
Headmaster.

Stowe, Buckingham, Oct. 24th, 1932.

*** The Ministry of Health have now given the needed guidance. In a circular dated Oct. 24th, it is stated that the Ministry have received certain inquiries as to the wisdom or expediency of closing residential schools in which isolated cases of poliomyelitis may have occurred. "The Ministry," it says, "are definitely of the opinion that the balance of advantage is in favour of *not* closing a residential school in which poliomyelitis has appeared. If the school be closed any potential infectiousness of the disease is more widely distributed, and passes beyond such means of supervision and control as are furnished in a well-equipped residential school conducted on hygienic lines."—ED. L.

INSULIN AND THE B.P., 1932

To the Editor of THE LANCET

SIR,—The authorities responsible for the British Pharmacopœia, 1932, have made it far from easy for the dispensing chemists to fill prescriptions for insulin. If the prescription reads "Insulin B.P. 100 units. Half a cubic centimetre to be injected twice daily," the chemist has no difficulty; he must supply one of the many brands of insulin containing a preservative. Should the prescription, however, read "Insulin

B.P. 100 units. To be used as directed," he seems to be at liberty to supply the cheapest insulin, even if it does not happen to have any preservative added. The reason he may do this is the fact that there is no indication in the prescription that the dose is not 100 units. The B.P. reads (p. 232):—

"If it is distributed into sealed ampoules, each of which contains one dose only, an antiseptic need not be added."
"The containers are either sealed glass ampoules, each of which contains an amount intended to be used as one dose, or glass phials, each containing a larger volume and sealed so as to allow the withdrawal of successive doses on different occasions."
"Doses: By subcutaneous injection. 5 to 100 Units."

The word "sealed" is used when the container is closed with a rubber cap, and therefore need not mean that the ampoule must be made entirely of glass. Again, insulin in solution according to the B.P. must be such "that the solution contains 20 Units per millilitre," and therefore a prescription for insulin containing 40 units or 80 units per millilitre cannot be filled with a preparation included in the B.P.

The question arises as to the circumstances which led the Pharmacopœia Commission to insist upon preservative being added to the solution when packed economically. I imagine that the Therapeutic Substances Act influenced it to some extent. That Act reads:—

"When any therapeutic substance is issued in liquid form in containers which are sealed in such a manner that portions of the contents can be withdrawn for use on different occasions the liquid shall contain a sufficient proportion of some antiseptic to prevent growth of any organism which may be accidentally introduced in the process of removing a portion of the contents of the container."

The Act was to put into force a finding of a Commission appointed to inquire into a disaster caused by pathogenic micro-organisms growing in a bottle of antitoxic serum. Lawyers assert that legislation for "hard luck" cases results in bad law. Perhaps rules designed to prevent disaster following carelessness may do more harm than good; they may save a life or two and damage many. As far as insulin is concerned the substitution of the word "antiseptic" by the word "substance" would allow insulin to be supplied without antiseptic because the acid in the solution prevents the growth of organisms. The alteration would not benefit patients suffering from Addison's disease, Addison's anæmia, diabetes insipidus, tetany, &c.; the extracts which are necessary for them would still have to contain antiseptic if packed economically. We have no evidence that preservatives do not destroy the active principles in these extracts, and it may take years to obtain evidence.

It seems extraordinary that a State which prohibits preservatives being added to food should insist on preservatives being added to therapeutic substances for injection when packed economically. Drs. W. W. Payne and A. G. Signy showed that insulin in solution with a pH 4·0 not only prevented the multiplication of *Bacillus coli* and *Staphylococcus aureus* but actually destroyed them. It had been asserted that when insulin became a medium in which micro-organisms could grow, it became cloudy owing to precipitation of the insulin upon the pH being raised, and therefore if patients were advised to use insulin only when water-clear, there would be no risk of their injecting a suspension of micro-organisms.

Dr. P. Hartley investigated the conditions upon which a solution might be rendered a culture medium for staphylococci. He added 920 freshly grown and presumably vigorous cocci, suspended in 25 cubic millilitres of broth, to 5 c.cm. insulin, to which he added varying quantities of alkali. It might have been a more convincing experiment if he had used a suspension in distilled water and not contaminated the insulin with peptones, even in small quantities. He found that if alkali was added to alter the pH from 4 to 8·3 the solution might become clear and allow cocci to grow for a time. The solution would pass through a cloudy stage if the alkali were added in successive doses.

Now that the majority of diabetic patients keep their syringes in spirit and do not boil them in water, the possibility of introducing alkali is removed. Since more than a million units of insulin in solution without added antiseptics are used daily in Europe, obviously the opinion that the addition of antiseptic should be added is far from universal. Some members of the staffs of many hospital take the view that the risk of infection from not adding antiseptic is smaller than the risk of damaging the patient by injecting antiseptic, and therefore, at a very large number of institutions, solutions of insulin are used which cannot be described as Insulin B.P. Amongst these are Guy's, Great Ormond-street, the London Hospital, and Middlesex Hospital. This does not seem a commendable state of affairs.

I am, Sir, yours faithfully,

Portland-place, W., Oct. 23rd, 1932. O. LEYTON.

PROFESSIONAL SECRECY

To the Editor of THE LANCET

SIR,—It is unfortunate that, when the question of professional secrecy arises, there is often some charge against a medical man or it is claimed that evidence is being withheld which is essential for the administration of justice. The issue consequently becomes confused; and it appears as if secrecy is to the advantage of medical men, whereas it is entirely to the advantage of the patient; and the medical profession is concerned because, unless secrecy is safeguarded, the practice of medicine becomes increasingly difficult. It is the custom of judges in some local courts to demand the production of insurance cards kept for panel patients when an application is made for compensation. Protests by medical men have been made from time to time, but these have been overruled. Unless the card is produced the claim of the applicant is rejected. The dangers will be appreciated from the following case:—

A miner, a widower aged 48, had a fracture of the left femur in 1927. This had united with two inches shortening and an ankylosed knee. He was paid partial compensation and worked as an ostler underground until this year. The pain became worse and he stopped work. His claim for full compensation was refused by the company and the case was taken to court. The point at issue was whether it was fair to ask such a man to walk 1000 yards underground. I appeared for the applicant. The applicant's doctor when giving evidence had to produce the insurance card, which was handed to the respondent's solicitor. It was then revealed that this man had contracted gonorrhœa two years previously. The whole history was then gone into. Though the doctor and myself were quite definite that this man was cured and that the condition of the left leg had nothing to do with gonorrhœa, it did not in any way prevent a very active cross-examination as to its relationship to gonorrhœal rheumatism, in which the judge himself participated. The respondent's doctor admitted that he did not consider the state of the left leg had anything to do with gonorrhœa. The question of venereal disease had been raised by the solicitor merely to damage the character of the applicant in the eyes of the judge and to obscure the issue. This miner's application was before the court merely because he had worked in a dangerous occupation and had suffered the effect of the danger. As a result an incident in his life was revealed in open court in front of many people from his district and, I believe, a grown-up son and daughter.

In the solicitors' room afterwards contempt was expressed for this solicitor, for the judge who had allowed such an abuse to occur, and for the medical profession who have made no effort to safeguard their patients; for this practice has been going on in the courts for a number of years. As a result patients will no longer consult medical men about venereal disease and will prefer to remain untreated. In addition, that confidence between a medical man and his patients which is so essential can no longer exist when information is so easily revealed.

The profession should not be content to let matters drift. The protests that have been raised amount to no more than a gesture, and our failure to make a stand for medical privileges has damaged our prestige.

I am, Sir, yours faithfully,

Cardiff, Oct. 15th, 1932. T. E. HAMMOND.

CONSTIPATION WITH INCONTINENCE

To the Editor of THE LANCET

SIR,—I was much interested to read in this week's issue of THE LANCET (p. 927) an abstract of a paper by C. E. Bloch, of Copenhagen, describing this condition of constipation with incontinence of fæces occurring in children. It seems probable that now this syndrome has been observed and reported similar cases will be published in this country. In the summer of this year a surgical colleague of mine at the Derbyshire Hospital for Sick Children, Mr. H. A. Lavelle, passed on to the medical ward for treatment a girl of 11 who had all the characteristic clinical features described by Bloch. She had been referred to hospital for incontinence of fæces (unaccompanied by urine) of gradual onset and increasing frequency; incontinence had been present for several months, and on admission she was passing, several times a day and completely uncontrolled, a motion that was normal in colour and consistence. Discipline and disgust at home had resulted in such shame and timidity as to suggest to the house surgeon the appearance of a mental defect. The anal sphincter was relaxed, and immediately after defæcation the rectum was still filled.

The girl showed some clinical findings not referred to in your abstract. The abdominal musculature was strikingly thin, and scybalous masses could be felt stretching across the abdomen like a string of large oval beads. She was given charcoal by mouth, and we were astonished to find it appearing at the anus within 18 hours. The condition was obviously one of retention with overflow, the overflow consisting for the most part of fresh daily residue which had managed to slip past the obstructing scybalous masses. At first she was treated with simple enemata; these were soon discovered to be useless and it required several days of colonic lavage before the whole colon was cleared. Each day the removal of a few inches of fæces could be made out by abdominal palpation. Then with the help of abdominal exercises and a stimulating aperient (aloes and nux vomica), she resumed a daily habit of defæcation and with its resumption she became a normal and happy child.

This treatment appears to be more rapid and more rational than that outlined by Bloch, and this fact—together with the rarity of the condition and the small additions to the clinical picture which we were able to make—has prompted me to send you this account. I am, Sir, yours faithfully,

Derby, Oct. 21st, 1932. DOUGLAS HUBBLE.

HUMAN AND BOVINE TUBERCULOSIS

To the Editor of THE LANCET

SIR,—In his presidential address to the Hunterian Society reported in your last issue (p. 900) Dr. Nathan Raw propounds some interesting queries on the subject of tuberculosis which probably can only be answered by clinical results and not by laboratory methods. A few conclusions I have arrived at are these. In the first place I have never failed to find the carrier in all private cases and likewise in many dispensary cases. The carrier is invariably the nurse which in most instances is the mother who may have been infected by the father, and in no case has milk even been suspected. One of my little boys acquired the infection from a nurse whilst I acquired it from dispensary patients. In both instances removal from the source completed the cure. Tuberculosis in children under 12 whether glandular, pulmonary, or abdominal is best treated by bovine tuberculin (P.T.O.), Koch's old tuberculin being practically useless. Patients over 12 receive benefit from the latter form of tuberculin whilst P.T.O. is of no use. These results lead one to the belief that the bovine type of tubercle bacillus finds young tissue a suitable soil whilst the human type lives only on older tissues. This seems feasible as cows rarely live more than 12 years. Though the bovine type is only (with certain exceptions) found in children, good results can be obtained to the children by treating the carrier or carriers with the human type of tuberculin. It is an everyday experience to find several types of tuberculosis in a tuberculous family of brothers and sisters.

I am, Sir, yours faithfully,

Buxton, Oct. 24th, 1932. R. CRAWSHAW HOLT.

SUBCUTANEOUS RUPTURE OF THE POPLITEAL ARTERY

To the Editor of THE LANCET

SIR,—Two cases of rupture of the popliteal artery are recorded by Mr. C. P. G. Wakeley and Mr. W. Ogilvy Reid in THE LANCET of Oct. 15th (p. 829); in each case the rupture was due to an injury, the lesion was just below the opening in the adductor magnus, and amputation of the thigh was performed within 30 hours of the accident. They could find a record of only four similar cases since the war, but were convinced that the condition was "not so rare as the number of recorded cases would lead one to expect." It may be of interest, therefore, to give a brief account of a case of perforation of the artery in the neighbourhood of the foramen in the adductor magnus, in which the onset and progress of the symptoms were much more gradual, and ligature of the artery instead of amputation was resorted to.

The patient, a man of about 70, was knocked down by a cyclist on June 4th, 1918. On the 18th he complained of a painful swelling in the right thigh over Scarpa's triangle, for which he consulted Dr. G. J. Conford, of Felixstowe, to whom I am indebted for notes of the case. Dr. Conford looked upon it at first as phlebitis. By the 26th the swelling in the thigh had considerably increased, was fairly hard and fixed, with slight but definite pulsation perceptible on palpation. I saw him in consultation on this day, and considered it to be a rapidly growing sarcoma, for which I advised immediate amputation. During the next few days the swelling of the thigh increased very rapidly, accompanied by severe pain, and he decided to submit to operation on July 2nd, a fortnight after the symptoms were first noticed.

At the operation the limb was found to be very greatly swollen and cyanic, and it was evident that there must have been very considerable hæmorrhage

into the tissues. Instead of proceeding to amputation as was originally proposed, an incision was made over the femoral artery. Much clot was removed, and the artery tied at the apex of Scarpa's triangle. The incision was prolonged downwards along Hunter's canal, masses of clot being cleared away, and the artery followed to the foramen in the adductor magnus where a circular perforation about 5 mm. in diameter was found. The artery, which was atheromatous and calcareous in places, was ligatured above and below the perforation and the wound closed. The vein was not interfered with. The patient made an uninterrupted recovery, and was walking about within a few weeks. He died about five years later from pulmonary disease.

I am, Sir, yours faithfully,

HERBERT H. BROWN, F.R.C.S.

Ipswich, Oct. 21st, 1932.

PROTEOLYTIC FERMENT IN AMŒBIC DYSENTERY

To the Editor of THE LANCET

SIR,—In an annotation on the early differential diagnosis between amœbic and bacillary dysentery in your issue of Oct. 15th (p. 853) mention is made of the secretion of a proteolytic ferment in *E. histolytica*, suggested by J. Anderson in 1921 and again by A. Alexieff in the present year. There are to my mind weighty reasons—phylogenetic, systematic, and biological—for doubting that amœbæ give off such a ferment. The sole instance among the protozoa in which digestive ferments are known to be passed out of the body is in the case of the suctorial acinetaria, where (as is always the case) they are secreted by the nucleus, which has finger-like extensions prolonged towards the tentacles. In no entamœba is there any suggestion of extracellular digestion, and the secretion of a proteolytic ferment implies far too great a phylogenetic jump. Even in the intracellular sporozoa there is no evidence of any "external" secretion of digestive ferments. In the malarial parasites, for instance, the resident product of digestion, the pigment is formed only in the cytoplasm of the parasite, never in the more or less used-up red corpuscle.

It must be remembered that the ectoplasm of *E. histolytica* is peculiarly well developed, tough, and mobile. When the penetration, by mobility of relatively delicate things like the germs of coccidia actually into the epithelial cells of the intestine is considered, there is no difficulty about the ectoplasmic pseudopodia of *histolytica* being able to bore or scrape a way inwards. Phylogenetically the extracellular secretion of digestive ferments undoubtedly began in the flagellates where at the base of the stomodæum the endoplasm is for a small area uncovered by the delicate investing cuticle. The different type of histolysis occurring in an amœbic ulcer from that to be seen in the submucosa in bacillary dysentery is probably explainable by the invasion of ordinary intestinal bacteria, which are more or less swept away in heavy infection with dysenteric bacilli.—I am, Sir, yours faithfully,

Walton-on-Thames, Oct. 19th. H. M. WOODCOCK.

RESPIRATORY EFFICIENCY TESTS

To the Editor of THE LANCET

SIR,—In his article of Sept. 24th (p. 665) and letter of Oct. 15th (p. 869) on tests for respiratory function, Dr. Alan Moncrieff attributes the first spirometric experiments to John Hutchinson (1846). Actually, Charles Thackrah, in his book on Industrial Diseases (I will not give its full title which contains 38 words), published in 1831, describes "an apparatus which may be termed a pulmometer," about which he adds:

"This is a large graduated jar, inserted over and filled with water. The person blows through a tube, the lower end of which is under the jar—making, however, but one expiration at each trial. . . . This mode, it will be observed, does not show the mere capacity of the lungs. The result of the experiment is the compound of the capacity of the air cells and the power of the respiratory muscles."

This apparatus Thackrah used very extensively, not only on workers in dusty trades, but also on such people as clerks in offices and fashionable ladies in tight stays, and suggested it might be of value in assessing recruits for the army, and used among his normals, "19 individuals from the 14th Light Dragoons," including apparently four members of the band.

I have been unable to determine whether Thackrah originated the idea, but his extensive and painstaking observations deserve precedence over those of Hutchinson, to whom is attributed the invention of the spirometer even in such a work as Garrison's History of Medicine.

I am, Sir, yours faithfully,

F. F. HELLIER.

The Medical School, Leeds, Oct. 24th, 1932.

INFECTIOUS DISEASE

IN ENGLAND AND WALES DURING THE WEEK ENDED OCT. 15TH, 1932

Notifications.—The following cases of infectious disease were notified during the week:—Small-pox, 12 (last week 17); scarlet fever, 2078; diphtheria, 1007; enteric fever, 83; acute pneumonia (primary or influenzal), 833; puerperal fever, 28; puerperal pyrexia, 102; cerebro-spinal fever, 30; acute poliomyelitis, 36; acute polio-encephalitis, 4; encephalitis lethargica, 8; continued fever, 1 (Hampstead); dysentery, 21; ophthalmia neonatorum, 78. No case of cholera, plague, or typhus fever was notified during the week.

The number of cases in the Infectious Hospitals of the London County Council on Oct. 18th–19th was as follows:—Small-pox, 49 under treatment, 0 under observation (last week 44 and 4 respectively); scarlet fever 1764; diphtheria, 1657; enteric fever, 21; measles, 230; whooping-cough, 311; puerperal fever, 24 (plus 8 babies); encephalitis lethargica, 231; poliomyelitis, 6; "other diseases," 161. At St. Margaret's Hospital there were 21 babies (plus 9 mothers) with ophthalmia neonatorum.

Deaths.—In 117 great towns, including London, there was no death from small-pox, 3 (1) from enteric fever, 12 (1) from measles, 5 (3) from scarlet fever, 10 (2) from whooping-cough, 21 (6) from diphtheria, 72 (19) from diarrhœa and enteritis under two years, and 46 (10) from influenza. The figures in parentheses are those for London itself.

Of the deaths from diarrhœa, 6 were reported from Birmingham, 5 from Leeds, 4 each from Gateshead and West Bromwich. Liverpool, Newcastle-on-Tyne, and Wigan each reported 2 deaths from measles. Diphtheria was responsible for 3 deaths at Dewsbury.

The number of stillbirths notified during the week was 276 (corresponding to a rate of 45 per 1000 total births), including 46 in London.

HOSPITAL NEEDS OF SHANGHAI.—The report for 1931 of the Lester Chinese Hospital at Shanghai records the transfer to a new building made possible by a legacy of one million taels from Mr. Henry Lester, a prominent British resident. During the year there were nearly 54,000 out-patients who made over 133,000 attendances. The report points out some of the serious hospital needs of Shanghai.

LONDON MEDICAL EXHIBITION

THE exhibition held in the New Hall of the Horticultural Society from Oct. 17th to 21st was one of the largest that has been seen, and testified, it is to be hoped, to a revival of trade. The following account is not exhaustive, but picks out for comment only the more novel products and apparatus from the very large and interesting selection put before the visitors.

Drugs and Pharmaceutical Preparations

(90) ALLEN AND HANBURYS, LTD. (Bethnal Green, E.), showed "Kapsol" halibut-liver oil in 3-minim capsules; and Calcium Lactobionate, for use in place of the less soluble gluconate, in ampoules.—(35) ALLNATT AND PARTNERS (296, Regent-street, W.) showed "Octozone," a form of oxygen with powerful oxidising and antiseptic properties, for rheumatism and other conditions; and also a portable lithotomy support which folds into a small case.—(14) ANGLO-AMERICAN PHARMACEUTICAL CO., LTD. (59, Dingwall-road, Croydon), introduced for the first time in this country "Casali-Alpha," a colloidal ferment containing gold, platinum, and palladium, for the correction of premature senility and low metabolism.—(7) ARMOUR AND CO., LTD. (St. Martin's-le-Grand, E.C.), have added to their long list of Glanoid preparations "Ferroglanoid," a combination of liver with iron, and were displaying their new preparation of thyroid in accordance with the 1932 Pharmacopœia.—(44) BAYER PRODUCTS, LTD. (19, St. Dunstan's-hill, E.C.), drew special attention to "Serules," containing sera under pressure and sealed with a rubber valve and needle in a sterilised glass tube—a companion to the well-known "Venules."—(13) THE BIO-CHEMICAL LABORATORIES, LTD. (94, Clerkenwell-road, E.C.), drew attention to "Paraphakin," a preparation to be taken internally for arresting senile cataract.—(37) BOOTS PURE DRUG CO., LTD. (Nottingham), on their blue and silver stand, showed charts illustrating the uses of "Amyl-Meta-Cresol," an antiseptic supplied in capsules; of "Pepsac," a desiccated stomach powder for use in cases of pernicious anæmia; and the activity of their vitamin D preparation, "Vitamalt"; also their compound preparation of liver and iron, "Livron," of which good clinical results are reported.—(61) BRITISH ALKALOIDS, LTD. (Winchester House, E.C.), drew attention to their T.C.P.B. 3, a colloidal emulsion of their antiseptic, for gastro-intestinal troubles.—(140) THE BRITISH DRUG HOUSES, LTD. (Graham-street, City-road, N.), exhibited crystals of pure vitamin D, as used in "Radiostol" solution and pellets; also a new concentrate of vitamin A of an activity equivalent to 50,000 blue units. Their preparation "Avoleum" is a simple solution of this concentrate in oil, and possesses an activity of 900.—(114) BURROUGHS WELLCOME AND CO. (Snow Hill Buildings, E.C.) drew attention to their tabloid "Diginutin" and their "Stipolac" tetraiodophenolphthalein in two tubes, one containing the salt and the other the acid mixture; the freshly precipitated substance is obtained by mixing the two compounds, and is claimed to obviate nausea.—(1) G. W. CARNRICK AND CO. (232-240, Vauxhall Bridge-road, S.W.) had on view a preparation of liver extract for intramuscular injection, "Erythgen"; and also a new ovarian follicular hormone, "Thelestrin," each ampoule containing 25 Allen-Doisy rat units.—(63) CHESEBROUGH MANUFACTURING CO. (CONS.) (Victoria-road, Willesden, N.W.) have taken over "Listerine," in addition to their well-known "Vaseline Capsicum" and "Pineoleum." The last they now market in a cheaper bottle with a nasal pipette in the cork.—(4) CONTINENTAL LABORATORIES, LTD. (30, Marsham-street, S.W.), have added to their well-known "Taxol" and "Lactobyl" a new mistletoe preparation for hypertension, "Detensyl."—(117, 118, 138) CROOKES' LABORATORIES, BRITISH COLLOIDS, LTD. (Park Royal, N.W.), drew attention to "Collosol" halibut-liver oil, which they claim to be the only natural preparation of this oil, entirely free from all solvents and ergosterol; also "Karvol," an antiseptic for the upper respiratory tract, which is active in the presence of serum.—(140, 150, 160) EVANS SONS LESCHER AND WEBB, LTD. (56, Hanover-street, Liverpool), showed "Hepatex I-M," a liver extract for intramuscular injection. They also displayed "E.D.P.," a bismuth formic-iodide dusting powder for skin conditions.—(70) FASSETT AND JOHNSON, LTD. (St. John's Gate Buildings, 86, Clerkenwell-road, E.C.), had on view anti-rheumatic seaweed salts for use in the bath at home. They also pointed out that they now supply "Eatan" in an orange-flavoured jelly, each cube containing a full dose.—(11) GENATOSAN, LTD. (Loughborough, Leicestershire), selected from among their well-known products, "Sanatogen," "Genasprin," and vaccines, a nasal spray of anti-catarrh vaccine as a preventive of colds.—(95, 96, 109) GLAXO LABORATORIES (56, Osnaburgh-street, N.W.) drew special attention to their "Adexolin" vitamin capsules, and to an anti-virus preparation which can be applied externally.—(121) C. J. HEWLETT AND SON, LTD. (35–42, Charlotte-street, E.C.), showed their useful General Practitioner's, Midwifery, and Surgeon's bags, and also Baron's portable lithotomy support. Their many pharmaceutical preparations, particularly *Pil. digitalis pur.*, were on show. They also showed trusses and appliances in their capacity as makers to the City of London Truss Society.—(71) THE HOFFMANN-LA ROCHE CHEMICAL WORKS, LTD. (The "Roche" Laboratories, 51, Bowes-road, N.), exhibited "Ovobrol," a new compound of their well-known "Sedobrol" sedative with bromide; and "Prostigmin," an intestinal stimulant for use after operations.—(45) HOWARDS AND SONS, LTD. (Ilford), had a charming little green and white replica of an old-fashioned chemist's shop, in which they showed their many preparations, particularly "Quinisan," a new quinine salt, and "Agotan" for rheumatism.—(122) JOHNSON AND SONS, LTD. (Hendon Way, Hendon, N.W.), showed "Arvitin," a silver preparation; lysol guaranteed to contain 50 per cent. cresols; and "Elixir Casc. Aromat.," a palatable preparation.—(137) J. F. MACFARLAN AND CO. (32, Bethnal Green-road, London, E.) picked out, from among their anæsthetic agents, "Brisettes," capsules containing 20 mins. of chloroform for use in childbirth.—(99) MAY AND BAKER, LTD. (Battersea, S.W.), exhibited among their preparations "Estriol," a preparation of 40 per cent. iodine in an ester of poppy-seed oil for the radiography of small cavities.—(103) H. R. NAPP, LTD. (3–4, Clement's-inn, W.C.), drew special attention to their "Xorox"; their bromide preparation, "Multibral"; their "Raminal," for anæmia and debility; and also their "Glucator," a simple apparatus for rapid and accurate estimation of sugar in the urine.—(42) NATIONAL DRUG INDUSTRIES, LTD. (Emmott-street, E.), the makers of "Petrolax," showed "Peldo," a protective ointment which is proving valuable in cases of industrial dermatitis.—(39) PAINES AND BYRNE, LTD. (31, Southampton-street, W.), had on view a gland preparation in capsule form for cases of dysmenorrhœa, "Pabryn-a-menotab."—(64) PARKE, DAVIS AND CO. (50–54, Beak-street, W.) featured "Haliverol," a preparation of oil of halibut fortified with "Viosterol," an irradiated ergosterol; this oil, they claim, is 60 times as potent in vitamin A as cod-liver oil, and 250 times in vitamin D; they also exhibited "Antuitrin-S," a solution of follicle-stimulating and luteinising hormone of the anterior pituitary.—(57) PEARSON'S ANTISEPTIC CO., LTD. (61, Mark-lane, E.C.), in addition to "Iodine-Medol" and Creolin, showed standardised lysol at half the price of the ordinary preparation.—(75) PETROLAGAR LABORATORIES, LTD. (Braydon-road, N.), pointed out that their "Petrolagar" was now cheaper, and their "Neobovinine" pleasanter to the taste.—(46) THE

PHARMACEUTICAL CORPORATION, LTD. (39–40, Aldersgate-street, E.C.), drew attention to "Novaseptic," a powerful germicide containing the bacterial ingredients (quinotoxins and benzoic acid) of their well-known "Novutox" local anæsthetic.—(155) REED AND CARNRICK (94, Clerkenwell-road, E.C.) showed their enteric-coated "Thyracoids," containing iodothyroglobulin. They claim that these are the only physiologically standardised thyroid.—(58) RESEARCH PRODUCTS, LTD. (12–13, Henrietta-street, W.C.), demonstrated mineral vitamin tablets containing copper, iron, iodine, and yeast; and also "Pyrolactin," a standardised and filtered milk for intramuscular injection, with or without vaccines.—(147) SANDOZ CHEMICAL WORKS (5, Wigmore-street, W.), in addition to their well-known preparations, showed "Partagon Bougies," providing a compound of colloidal silver chloride and sodium silver chloride formed in an aqueous medium, for the treatment of venereal disease.—(27, 28) SAVORY AND MOORE, LTD. (143, New Bond-street, W.), among their wide range of preparations, showed "Urotropal," a urinary antiseptic, especially for diseases arising from excess of uric acid; "Laxaloids"—glandular extracts with agar-agar; and "Laxarol," a paraffin emulsion with agar-agar, phenolphthalein, and carminatives.—(47) SCHERING, LTD. (3, Lloyds-avenue, E.C.), gave prominence at their stand to their most recent products: "Progynon," for secondary amenorrhœa and climacteric disturbances; "Neotropin," a urinary antiseptic for oral use; "Solganal," gold products and Uroselectan B.—(146) SHARP AND DOHME, LTD. (252, Regent-street, W.), exhibited their "Solution S.T. 37," a new antiseptic of low surface tension, for which they claim exceptional penetration; also a concentrated preparation of Felton's serum for lobar pneumonia.—(125) E. H. SPICER AND CO., LTD. (Endocrines, Ltd., Watford), introduced "Haliver Oil" with ergosterol, a halibut oil with a high percentage of vitamins A and D, manufactured in Montreal.—(85) VITAMINS, LTD. (23, Upper Mall, W.), had on view "Bemax" chocolate, which has been considerably improved in taste. This attractive sweetmeat contains 20 per cent. of "Bemax," and therefore a large proportion of vitamin B.—(10) WHITE'S LABORATORIES, LTD. (Bush House, W.C.), illustrated cinematographically their method of preparing a tested and standardised preparation of the non-saponifiable fraction of cod-liver oil, which is dispensed in tablets flavoured with oil of wintergreen.

Surgical Instruments and Appliances

(26) BRUCE, GREEN AND CO., LTD. (14–18, Bloomsbury-street, W.C.), directed attention to a new ophthalmological trial frame mounted on a bracket, with full range of adjustment.—(3) CAMERON'S SURGICAL SPECIALITIES, LTD. (40, Langham-street, W.), have made their well-known diagnostic sets more durable.—(6) J. AND A. CARTERS, LTD. (125–129, Great Portland-street, W.), showed an improved dry bed for incontinent patients.—(145) CLEMENT CLARKE, LTD. (16, Wigmore-street, W.), showed their "Synoptophore," a new and accurately calibrated apparatus for curing all degrees of squint.—(141) STANLEY COX, LTD. (39, Gerrard-street, W.), had on view the "Autogram" portable X ray set, complete with 2½ kw. "Metalix" tube for operation at 70 kv., with a maximum current of 10 ma. It has complete range of adjustment.—(30) C. W. DIXEY AND SON, LTD. (19, Old Bond-street, W.), showed a new British slit-lamp apparatus at a price much below that of the cheapest continental lamps.—(18) THEODORE HAMBLIN, LTD. (15, Wigmore-street, Cavendish-square, W.), had on view a full range of reading glasses; and "Spotlight" spectacles: a small focusing lamp fixed to the bridge of the spectacle frame.—(33) T. HAWKSLEY, LTD. (351, Oxford-street, W.), among their extremely long range of appliances for the deaf, displayed the new model of the Marconi Otophone, which amplifies by the ordinary wireless methods, giving an exceptionally loud reproduction for very deaf subjects.—(2) HOLBORN SURGICAL INSTRUMENT CO., LTD. (26, Thavies-inn, Holborn Circus, E.C.), in addition to their instruments, drew attention to "Armour-plate" unbreakable glass for tables and shelves.—(110) THE INHALING DRUG AND APPARATUS CO., LTD. (87, Eccleston-square, S.W.), drew attention to their British-made "Apneu" Collison inhaler, an improved and simplified form of their original Spiess-Dräger inhalation apparatus.—(142) C. DAVIS KEELER (47, Wigmore-street, W.) drew special attention to the "Decagon," which they claim is the only automatic refraction unit in existence. It gives an automatic reading of the points of refraction error. It is British made, and provides a quick and entirely new and convenient method of diagnosing and measuring astigmatism.—(156) MEDICAL SURGICAL SUNDRIES, LTD. (97, Swinderby-road, Wembley), exhibited their "Esseff" inhaling apparatus; also an oiled-canvas first-aid wallet in a red metal cylinder, for the car.—(24) W. H. PETTIFOR (11, Victoria-street, S.W.), among his various aids for the deaf, showed a hearing-tube with a stethoscope microphone which is placed over the speaker's trachea while the earpiece goes in the deaf person's ear; the sound is amplified, while at the same time the speaker's lips are left perfectly visible.—(86) RADIUM ELECTRIC, LTD. (24, Grosvenor-gardens, S.W.), exhibited their "Q-Ray" Electro-Radium-Compress. These pads are now obtainable in different radio-active strengths up to 0·092 mg. radium element.—(23) RAYNER AND KEELER, LTD. (100, New Bond-street, W.), showed a transparent protractor in the form of a roller blind for rapidly and accurately transferring the boundaries of a scotoma from the Bjerrum screen to a chart.—(12) W. J. RENDELL, LTD. (161–165, Rosebery-avenue, E.C.), by means of an analytical quartz lamp, showed the perfect distribution of quinine throughout their pessaries.—(62) A. G. SHELDON AND CO., LTD. (59, Weymouth-street, W.), have added to their useful range of drums an assortment of sterilised dressings done up in cardboard cartons and costing only 2*s.* 6*d.* and 1*s.* 6*d.*—(157) SPARKLETS, LTD. (London, N.18), showed a resuscitator for the administration of carbon dioxide, oxygen, or both; Sparklet bulbs are inserted into a light metal holder, and each bulb gives six minutes' supply of gas at an optimim rate of 2 litres per minute. They also showed an apparatus for producing solid carbon dioxide.—(101) THE SURGICAL MANUFACTURING CO., LTD. (83–85, Mortimer-street, W.), emphasised a smaller and cheaper sphygmomanometer, and a diagnostic set which can be connected to the main supply.—(16) THE WILSON RUBBER CO., LTD. (85, Buckingham-avenue, Slough, Bucks), has been formed to meet the demand for British-made rubber gloves. It was founded under the supervision of the American Wilson Rubber Co., the largest manufacturers of rubber gloves in the world, and is now importing highly skilled workmen to turn out the gloves and employing British potters to make the forms on which the gloves are stretched. It makes a specialty of gloves for hands which have lost fingers.

Books and Periodicals

(21, 22) BAILLIÈRE, TINDALL AND COX (7–8, Henrietta-street, Covent Garden, W.C.), among other important works, had on view Strümpell's "Practice of Medicine" (thirtieth German edition), and Lipscomb's "Diseases of Old Age."—(20) WILLIAM HEINEMANN (MEDICAL BOOKS), LTD. (99, Great Russell-street, W.C.), exhibited their latest works on medicine and surgery, including L. S. T. Burrell's "Artificial Pneumothorax," A. Cannon and E. D. T. Hayes' "Principles and Practice of Psychiatry," also T. H. van de Velde's trilogy of books on sex life.—(32, 40, 41) H. K. LEWIS AND CO., LTD. (136 and 140, Gower-street, W.C.), showed the office equipment of a consulting-room, including a roll-top cabinet for panel records; a series of hand-painted coats of arms; also the

"Bedford Doll," a full-sized female figure for training nurses. Among their medical books were Martindale and Westcott's "The Extra Pharmacopœia (20th edition, brought up to date to conform with the 1932 Pharmacopœia), and H. Bailey and R. J. M. Love's "A Short Practice of Surgery."—(25) OXFORD UNIVERSITY PRESS (Warwick-square, E.C.) pointed out particularly V. Meisen's "Varicose Veins and Hæmorrhoids"; Sicard and Forestier's "Lipiodol"; von Economo's "Encephalitis Lethargica"; Nattrass's "Commoner Nervous Diseases"; and the fourth edition of Harrison's "Diagnosis and Treatment of Veneral Diseases."—(76) "THE MEDICAL PRESS AND CIRCULAR" (8, Henrietta-street, W.C.) showed interesting relics of their long history, including the first volume of the Amalgamated Journal published in Dublin in 1886.—(29) "THE PRACTITIONER" (6–8, Bouverie-street, E.C.) displayed recent special numbers, including that on common ailments, and drew attention to future issues, which will contain symposia on influenza, diseases of ear, nose, and throat, and mental disease.—(98) JOHN WRIGHT AND SONS, LTD. (Bristol), had on view a number of books and periodicals, including "Cancer of the Lung," by Maurice Davidson; "Emergency Surgery," by Bailey; "Chronic Otorrhœa," by Friel; and the "Synopsis" series.

Foods and Drinks

(100) CADBURY BROS., LTD. (Bournville, Birmingham), dispensed "Bourn-Vita," their new food drink, composed of British malt, eggs, milk, and cocoa, with a high content of vitamins A, B, and D.—(144) CORN PRODUCTS CO., LTD. (Bush House, W.C.), showed "Dextrosol Brand," a very pure form of dextrose, conforming with the requirements of the 1932 Pharmacopœia, and also "Karo Syrup," an infant food containing a mixture of sugars in which the first difficult step in the digestive process has been accomplished so that no one type of fermentation prevails, and digestion and absorption proceed simultaneously.—(77) COW AND GATE, LTD. (Cow and Gate House, Guildford), showed their well-known preparations, and introduced "Caprolac," the only British preparation of goat's milk, for babies who are sensitive to cow's milk.—(115) ENERGEN FOODS CO., LTD. (Willesden, N.W.), invited visitors to taste their jams and marmalade for diabetic patients.—(73) OXO, LTD. (Thames House, Queen Street-place, E.C.), in addition to their well-known food and gland preparations, had on view a liver substance for injection in the critical stages of pernicious anæmia.—(126, 130) TRUFOOD, LTD. (Wrenbury, Cheshire), had a large stand to remind visitors of the value of their humanised and full-cream dried milk and "Secway" whey powder.

Miscellaneous

(60) BATH. A representative of Bath explained the new thermal vapour treatment now available at the Spa.—(9) THE GAS LIGHT AND COKE CO. (Horseferry-road, S.W.) had on view a new model gas fire raised from the ground and let into the wall, called the "Sun-Square" fire, and a gas infra-red treatment lamp. Their gas stoves are now made in six colours.—(143) JOHNSON AND JOHNSON (Slough, Bucks) emphasised the value of their "Tek" toothbrush.—(72) THE NATIONAL OPHTHALMIC TREATMENT BOARD (1, High-street, Marylebone, W.) presented their system of providing ophthalmic service at a very low inclusive charge, which has now been reduced.

Finally, at one of the most interesting stands in the show (17), INDEX, LTD. (Thames House, Millbank, S.W.), demonstrated an admirable and ingenious card-index system. The records are built up unit by unit, and an inexpensive cabinet may be purchased for a start. All the names are visible as soon as the drawer is pulled out, and the cards can be written on without removal from the file.

LONDON MEDICAL SOCIETIES

AT the opening of a new session we are again giving for the convenience of our readers the names of presidents and hon. secretaries of London medical societies, with the addresses at which tney can be approached.

Royal Society of Medicine.—President: Mr. V. Warren Low, F.R.C.S.; Hon. Secretaries: Dr. George Riddoch and Mr. C. W. Gordon-Bryan, F.R.C.S. Address: 1, Wimpole-street, W.1.

Royal Society of Tropical Medicine and Hygiene.—President: Dr. G. Carmichael Low; Hon. Secretaries: Dr. C. M. Wenyon and Dr. N. Hamilton Fairley. Address: Manson House, 26, Portland-place, W.1.

Medical Society of London.—President: Sir John Broadbent, F.R.C.P.; Hon. Secretaries: Dr. T. Jenner Hoskin and Mr. Neil Sinclair, F.R.C.S. Address: 11, Chandos-street, W.1.

Hunterian Society.—President: Dr. Nathan Raw; Hon. Secretaries: Mr. Andrew McAllister, F.R.C.S., and Mr. M. H. Oldershaw, F.R.C.S. Address: 26, Upper Wimpole-street, W.1.

Harveian Society.—President: Mr. Cecil P. G. Wakeley, F.R.C.S.; Hon. Secretaries: Dr. R. Cove-Smith and Prof. Tom Hare. Address: 2, Burwood-place, W.2.

Medico-Legal Society.—President: Lord Riddell; Hon. Secretaries: Mr. Ernest Goddard and Dr. W. G. Barnard. Address: 3, South-square, Gray's Inn, London, W.C.1.

London Association of the Medical Women's Federation.—President: Prof. Mary Lucas Keene, M.B.; Hon. Secretary: Dr. Annis Gillie. Address: 86, Porchester-terrace, W.2.

West London Medico-Chirurgical Society.—President: Dr. H. H. Mills; Hon. Secretaries: Dr. W. S. C. Copeman and Mr. G. B. Woodd-Walker, F.R.C.S. Address: 15, Harley-street, W.1.

Chelsea Clinical Society.—President: Mr. Ivor Back, F.R.C.S.; Hon. Secretaries: Mr. A. Rugg-Gunn, F.R.C.S., and Mr. H. P. Bayliss, L.D.S. Address: 49, Harley-street, W.1.

West Kent Medico-Chirurgical Society.—President: Dr. Harold Pritchard; Hon. Secretary: Dr. C. J. B. Buchan. Address: 267, Baring-road, S.E.12.

Royal Medico-Psychological Association.—President: Dr. R. B. Campbell; Hon. General Secretary, Dr. Reginald Worth. Secretary's office: 11, Chandos-street, W.1.

Society of Medical Officers of Health.—President: Dr. G. H. Pearce; Hon. Secretary: Mr. G. L. C. Elliston. Address: 1, Upper Montague-street, Russell-square, W.C.1.

Tuberculosis Association.—President: Dr. Jane Walker; Hon. Secretary: Dr. G. T. Hebert. Address: St. Thomas's Hospital.

Paddington Medical Society.—President: Dr. G. de Swietochowski; Hon. Secretary: Dr. A. Baldie. Address: 7, Warwick-gardens, W.2.

South-West London Medical Society.—President: Dr. H. C. Sturdy; Hon. Secretaries: Dr. E. G. Housden and Dr. A. W. Wells. Address: 51, Longley-road, S.W.17.

Medical Society of Individual Psychology.—Chairman: Prof. W. Langdon Brown; Hon. Secretary: Dr. F. G. Crookshank. Address: 57A, Wimpole-street, W.1.

British Institute of Radiology.—President: Prof. F. L. Hopwood; Hon. Secretaries: Dr. W. M. Levitt and Mr. G. E. Bell. Address: 32, Welbeck-street, W.1.

St. John's Hospital Dermatological Society.—President: Dr. J. M. H. MacLeod; Hon. Secretary: Dr. J. M. Spencer Scovell. Address: 49, Leicester-square, W.C.2.

Society for the Study of Inebriety.—President: Lady Barrett, M.S.; Hon. Secretary: Dr. T. N. Kelynack. Address: 19, Park-crescent, Portland-place, London, W.1.

MEDICAL NEWS

University of Oxford

Exeter College.—Mr. John Carew Eccles, D.Phil., formerly junior research Fellow, has been elected to a senior research Fellowship in medicine. This is the first appointment to the Fellowship, which is entitled the Staines Fellowship, and was founded by the late Amelia Jackson in memory of her father.

University of Cambridge

On Oct. 21st the following degrees were conferred:—

M.D.—*F. H. McCay, *E. A. H. Grylls, and T. S. Goodwin.
M.B. & B. Chir.—*F. H. King, *R. B. Pringle, *J. H. Bentley, W. McO. Macgregor, V. T. Thorne, C. S. Lewis, W. McN. Niblock, and C. E. Taylor.
M.B.—*E. B. Murrell, B. C. Nicholson, R. A. Jones, and D. J. R. Steen.
B.Chir.—*J. L. S. Scott, *Matthew Westwood, and W. W. Sargant.
* By proxy.

Dr. A. N. Drury has been appointed Huddersfield lecturer in special pathology.

Mr. Geoffrey Keynes, assistant surgeon to St. Bartholomew's Hospital, has been appointed to the Sandars readership in bibliography for 1933.

Royal College of Surgeons of Edinburgh

At a recent meeting of the College, with Mr. John Wheeler Dowden, the president, in the chair, the following 29 successful candidates (out of 97 entered) who passed the requisite examinations between July 7th and 15th were admitted as Fellows:—

Deborah M. Alcock, M.B. Edin.; N. J. Bakhru, M.B. Bomb.; W. S. Brindle, M.B. Liverp.; J. H. Casewell, M.B. Cape Town; C. G. Crawford, M.B. Sydney; Robert Everett, M.B. Edin; J. A. C. Fleming, M.B. Edin.; Isabella Forshall, M.B. Lond.; Isaac Goldberg, M.B. Edin.; J. I. R. Gray, M.B. N.Z.; T. E. Holland, M.D. Manitoba; R. McK. Honey, M.B. Edin.; J. J. Jennings, M.B. Irel.; Phyllis I. Kaufmann, M.B. Manch.; Herbert Kaye, M.R.C.S. Eng.; Kenneth Knowles, M.R.C.S.Eng.; R. B. Lumsden, M.B. Edin.; H. I. McClure, M.B. Belfast; H. M. Martin, M.B. Dub.; C. F. Mayne, M.R.C.S. Eng.; J. J. O'Reilly, M.B. Dub.; R. J. Parry, M.B. Lond.; C. O. F. Rieger, M.B. Adelaide; Eugene Sandner, M.B. Melb.; D. P. Settna, M.R.C.S. Eng.; L. A. H. Snowball, M.B. Lond.; J. S. Sutherland, M.B. Edin.; Ba Than, M.B. Calcutta; and G. E. Waterworth, M.D. N.Z.

Scottish Conjoint Board

At recent examinations by the conjoint board of the Royal Colleges of Physicians and Surgeons of Edinburgh and the Royal Faculty of Physicians and Surgeons of Glasgow, the following candidates were successful:—

L.R.C.P., L.R.C.S., & L.R.F.P. & S.

M. D. S. Jayawardana, K. W. Harcourt, D. McN. Beaugie, A. McN. Aitken, A. B. Morrison, R. D. Johnston, R. L. Sutton, V. T. Naidu, Donald Cameron, S. D. Senapathi, T. D. L. Bolan, Andrew Muir, M. G. Naidoo, Julius Ossip, Alastair Macdonald, M. A. Abdalla, and G. R. Tisseveresinghe.

D.P.H.

D. M. Alston, Elizabeth R. Jamieson, Jessie M. Jamieson, J. L. Hunter, John Comrie, Jessie R. Wilson, and A. St. J. Moffat.
Part. I.—T. K. Kuruvila, Henry Caplan, R. A. Read, Barbara C. Welsh, A. C. Scott, Jean W. R. Paton, Rachel B. Nelson, M. D. Macqueen, W. M. P. McDonald, and J. L. Smith.
Part II.—J. F. Hamilton.

Royal College of Physicians of Ireland

At the annual stated meeting of the College, held on St. Luke's Day, Dr. Thomas Gillman Moorhead, Regius professor of physic in the University of Dublin, was re-elected president for a third year of office. He nominated Dr. F. C. Purser vice-president. The censors appointed were: In medicine, Drs. F. C. Purser and C. Murphy; in medical jurisprudence, Dr. E. T. Freeman; in midwifery, Dr. J. S. Quin. In the evening the President and Fellows dined in the College Hall, and entertained, among other guests, the Lord Mayor of Dublin, the President of the Royal College of Surgeons in Ireland, the President of University College, Dublin, the Bishop of Limerick, and the Dean of the School of Physic.

Royal Opening of Hospital Extensions

On Monday last week Prince George opened a new casualty department at King Edward Memorial Hospital, Ealing, of which he is patron. The cost has been £10,000. Two days later he opened an extension of the Royal Victoria and West Hants Hospital at Boscombe upon which £120,000 has been expended, of which £87,000 has been obtained. The additions, which have more than doubled the size of the hospital, include new out-patients' blocks, extensive improvements of the specialist departments, and a large number of wards for private patients. The board room has been entirely decorated and furnished as a memorial to the late Colonel Heygate Vernon, F.R.C.S., who rendered great services to the hospital.

National Association for the Prevention of Tuberculosis

The verbatim report of the annual conference held in London in July last has now been published. Copies may be had from the secretary, N.A.P.T., Tavistock House North, Tavistock-square, London, W.C.1, price 7*s.* 6*d.*, post free.

Royal Institution

The first of the Friday evening discourses, delivered at 9 P.M., will be given on Nov. 18th by Dr. R. G. Canti, who will demonstrate a film showing the cultivation of living tissue cells. At 5.15 P.M. on Tuesdays, from Nov. 1st to 22nd, Prof. E. N. da C. Andrade will speak on Rays and Radiation, and at the same hour on Nov. 29th and Dec. 6th and 13th, Prof. Lancelot Hogben is to lecture on Colour Changes in the Animal Kingdom. The 107th course of six lectures "adapted to a juvenile auditory" will be given by Prof. A. O. Rankine, beginning on Dec. 27th. The address of the Royal Institution is 21, Albemarle-street, London, W.1.

An International Congress on Biliary Lithiasis.

This Congress was held at Vichy from Sept. 19th to Sept. 24th, when delegates attended from Germany, Cuba, Spain, Japan, United States, Nicaragua, Venezuela, Argentine, Austria, Belgium, Bolivia, Brazil, Bulgaria, Canada, Chile, Ecuador, Egypt, Greece, Guatemala, Holland, Hungary, Iceland, Italy, Mexico, Norway, Peru, Portugal, Poland, Roumania, Sweden, Switzerland, Turkey, Uruguay, and Great Britain. The principal papers read were on (1) The Sequelæ of Cholecystectomy; (2) The Medical Hydrotherapeutic Treatment of Biliary Lithiasis; and (3) The Lithiasistic Liver.

Prof. D. P. D. Wilkie, of Edinburgh, reviewed the subject of cholecystectomy. The type with remote effects of chronic cholecystitis, he said, were either thin people with myocardial lesions due to toxins from the gall-bladder or very fat females with similar toxic effects in a fat-laden heart; the former gave good results, but the latter only if medical treatment was given for the obesity. In this type he included cases of rheumatism and nephritis, which had improved by cholecystectomy.—Dr. Victor Donnet (New York) pointed out that cholecystectomy should not be performed unless medical treatment failed and the gall-bladder function grossly impaired because of the dyspepsia which followed the passive dilatation of the whole of the biliary system.—Dr. A. Gosset and Dr. Petit-Dutaillis (Paris) mentioned jaundice due to obstruction of the common bile duct by calculi left at the operation, stenosis of the duct, adhesions causing extensive compression.—Dr. C. Giraud (Montpellier) stated that many of the sequelæ were due to a residue of the liver disturbances present before the operation which react to medical treatment only after operation.—Dr. H. Béclère (Paris) showed the value of X ray diagnosis in revealing post-operative fistula, calculi, in the biliary system or by combined radiography of stomach and duodenum, sequelæ due to kinking of the duodenal cap.—Dr. P. Abrami mentioned the experimental work on ionic antisepsis moving the pH of bile to the alkaline side, and thus rendering it unsuitable for many bacteria. He also mentioned the value of urotropine intravenous injections in association with medical drainage.—Prof. F. Umber (Berlin) stressed the effect on the liver cells of biliary obstruction producing a picture like subacute yellow atrophy (hepatosis), and the value of glycogen to the liver cell, and suggested a diet rich in lævulose and glucose, with insulin injections in association with biliary antisepsis and hydrotherapy.—Dr. L. Delherm and Dr. H. Dausset (Paris) showed that true hepatic stones contained less cholesterol than the gall-bladder stones, and felt that both occurred in people with a calculous diathesis.—Dr. M. Brulé (Paris) mentioned the obstructive jaundice of hepatitis and its differentiation from common duct obstruction by the marked enlargement of the liver in the second case; of the differential diagnosis of jaundice due to cancer and stone in the common duct. He pointed out that in the latter bile can be obtained by duodenal drainage.—Dr. J. Dieryck (Louvain) considered the only reliable liver function test depended upon a measure of the glycogenic function, for which purpose he used galactose and measured the total and partial concentrations in the urine, differentiating jaundice due to obstruction of the bile ducts from that due to hepatic cellular disease.—Dr. R. Gilbert (Geneva) mentioned the value of tetraiodophenolphthalein by the mouth in radiography, especially in association with X ray examination of the stomach and duodenum, and suggested its possible value as a liver function test. The proceedings of the Congress, with abstracts of papers in six languages, have been issued in volume form. (Paris: G. Doin et Cie. Fr.50.)

Sir Henry Dale, M.D., secretary of the Royal Society and director of the National Institute of Medical Research, has been elected a member of the Swedish Academy of Science.

World League for Sexual Reform

On Thursday, Nov. 3rd, at 8 P.M., at the London School of Hygiene, Keppel-street, London, W.C., the British section of this league will hold a meeting to discuss the Laws concerning Abortion.

National Institute for the Blind

Mr. C. C. G. Nock and Mr. John May, the first blind candidates to sit for the Society of Apothecaries' examination in diathermy, have successfully qualified in that subject. Both are chartered masseurs, having been trained at the National Institute's school.

Royal Sanitary Institute

A discussion on Modern Ideas on the Construction and Administration of Infectious Diseases Hospitals will be opened by Dr. J. A. Charles, at the Town Hall, Durham, at 4 P.M., on Friday, Nov. 4th. At the house of the Institute, 90, Buckingham Palace-road, London, S.W., at 5.30 P.M., on Tuesday, Nov. 8th, there will be discussions on the Cyanide Fumigation of Ships and on the Control of Insects on Foodstuffs and other Raw Materials by Fumigation. At 5.30 P.M. on Tuesday, Nov. 29th, also at the Institute, Dr. James Fenton will open a discussion on Clearance Areas and Improvement Areas.

Chelsea Clinical Society

The annual dinner of this society was held at Claridge's Hotel on Oct. 18th and was attended by 95 members and guests. Mr. Ivor Back took the chair and replied to the toast of the Chelsea Clinical Society, proposed in a humorous speech by Mr. Sidney Dark. "The Guests" was proposed by Dr. Rivers Pollock, and replies were made by Mr. Ralph Straus, Mr. George Belcher, Mr. Warren Low, and Sir Henry Curtis-Bennett. Mr. Warren Low, as president of the Royal Society of Medicine, laid stress on the important part, social as well as educational, played by the smaller medical societies in the progress of medicine.

Fellowship of Medicine and Post-Graduate Medical Association

Arrangements for the coming week will be found in the Medical Diary in another column. There will be a course in practical pathology at the Hospital for Consumption, Brompton, S.W., from Nov. 10th to Dec. 1st, on Thursdays, from 11·45 A.M. to 1 P.M. A demonstration of selected cases of general interest will begin at the Lambeth Hospital, Brook-street, S.E.11, on Friday, Nov. 18th, at 2 P.M. A course consisting of six lecture-demonstrations on Diagnosis and Treatment of Chronic Rheumatism will be held at the British Red Cross Clinic for Rheumatism, Peto-place, N.W., from Nov. 22nd to Dec. 8th, on Tuesdays and Thursdays, at 8.30 P.M. A course in medicine, surgery and gynæcology will be held at the Royal Waterloo Hospital, from Nov. 7th to 26th (afternoons and some mornings). Further particulars may be had from the Secretary of the Fellowship at 1, Wimpole-street, London, W.1.

The Place of Biology in Education

Under the auspices of the British Social Hygiene Council a conference on the place of biology in education will be held at the house of the British Medical Association, Tavistock-square, London, W.C.1, on Nov. 30th and Dec. 3rd. Lord Irwin, President of the Board of Education, will be honorary president of the conference, over which Lord Chelmsford will preside.

A preliminary agenda has been issued from which it appears that on the morning of Nov. 30th Sir Michael Sadler and Sir William Hardy will open a discussion on the National and Imperial Need for a Biological Outlook. In the afternoon two concurrent sessions will be held. At one of these Prof. A. V. Hill, Sir Walter Fletcher, Prof. J. Strong, Mr. F. Herbert Toyne, and Mr. F. Mander will speak on How Local Authorities can promote the teaching of Biology. At the other session Biology in the Training Colleges will be discussed. On Dec. 3rd, the morning session will be devoted to a discussion on Biology in the Central, Senior Elementary, and Junior Elementary Schools, with Prof. Winifred Cullis in the chair, and the afternoon session to a discussion on Biology in the Public, Secondary, and Preparatory Schools. Among the speakers will be Dr. Ralph H. Crowley, senior medical officer, Board of Education, and Mr. G. S. M. Ellis, educational secretary, National Union of Teachers. At this session Mr. W. W. Vaughan, lately headmaster of Rugby, will take the chair and the speakers will include Prof. H. A. S. Wortley, Mr. D. Ward Cutler, and the Rev. Stewart A. McDowall.

Neurological Institute at McGill University

A new neurological institute is to be built at McGill University, Montreal, containing public, private, and semi-private wards, together with the necessary equipment for investigation and research. Its erection is made possible by the grant of over 1,232,000 dollars by the Rockefeller Foundation. The director will be Dr. Wilder G. Penfield, who is at present in charge of the department of neurology and neurosurgery of the University. He will be assisted by Dr. Colin Russel, Dr. F. K. MacKay, and Dr. W. V. Cone.

Freedom Conferred on a Medical Man

After 40 years' service as medical officer of health and school medical officer, the honorary freedom of the borough of Morecambe and Heysham was, on Thursday last, bestowed upon Dr. John William Watterson, who is also an alderman of the county of Lancaster and a county and borough magistrate. Dr. Watterson is a native of Burnley, and is the senior partner in the firm of Drs. Watterson, Hogarth, and McFadzean, of Morecambe. Over 2000 people attended the statutory meeting of the Corporation at which the distinction was conferred.

Red Cross Clinic for Rheumatism

Attendances at this clinic in Peto-place, London, N.W., numbered 6091 last month, compared with 5770 in September of last year, and 2684 in September, 1930. The total number of treatments given on the general floor during the month were 4449 to women and 3344 to men, and nearly 1000 treatments were given on the private floor. Provision is now made for remedial exercises in a gymnasium. The equipment was provided by the staff themselves as a contribution to the more effective carrying-out of the work.

Société Médicale du Littoral Méditerranéen

The annual tour organised by this society on the Côte d'Azur will take place this year soon after Christmas. Cannes will be the starting point, and most of the principal towns on this coast will be included in the itinerary. The tour will be under the scientific direction of Prof. Forgue, Prof. Marcel Labbé, and Prof. Laignel-Lavastine; demonstrations and meetings will be held at the various stopping places, and hospitals and other scientific institutions will be visited. Further particulars may be had from the secretary of the society, 24, rue Verdi, Nice. A second tour will be held at Easter.

Portsmouth Mental Hospital

Last week the Lord Mayor of Portsmouth, Alderman F. G. Foster, opened two new villas, to accommodate 124 patients, which have been added to this hospital. One has been named after Dr. H. Devine, formerly medical superintendent, and the other after Alderman W. Gleave, the deputy Lord Mayor. The buildings, which face due south, are planned on three sides of a rectangle, have cost over £27,000. At the opening ceremony last week Dr. T. Beaton, the medical superintendent, stated that during the last four years patients had increased by 200. This "extraordinary increase" was, he said, partly because "patients did not die as they used to," and partly because mental disease is now recognised at a much earlier stage.

New Orthopædic Clinic at Glasgow

The Orthopædic and Rheumatic Clinic of Glasgow is to have new premises in Bath-street. Six years ago the clinic started with five patients; at present 165 are treated daily. The clinic is for people who cannot afford private treatment and who do not wish to receive free treatment in the city hospitals. In its short career it has been run free of debt. In 1931 49,950 patients were given treatment, and as this figure represents an increase of 17,523 on the previous year, more commodious premises were necessary. The clinic is to be opened by the Earl of Home.

Institute of Medical Psychology

A fortnight's course on Functional Nervous Disorders, for members and students of the medical profession only, will open at this institute (formerly the Tavistock-square Clinic) on Nov. 7th. There will be three lectures daily, at 4.45, 5.45, and 8.15 P.M., and they will be given at the new premises in Torrington-place, London, W.C. The lecturers during the first week will be Dr. H. Crichton-Miller (director of the institute), Dr. J. R. Rees (deputy director), Dr. R. G. Gordon, Dr. H. Gardiner-Hill, Dr. Russell Brain, Dr. Alice Hutchison, Dr. E. A. Hamilton-Pearson, and Dr. J. Barrie Murray. Tickets may be had from the hon. lecture secretary, at 51, Tavistock-square, W.C.1, which will be the address of the institute until the end of October. A year's post-graduate course in Psychotherapeutic Theory and Method, for medical practitioners, and also a year's course in the children's department, for psychological students, are now in progress. Particulars of these and subsequent courses may be had on application.

PARLIAMENTARY INTELLIGENCE

NOTES ON CURRENT TOPICS

Ottawa Agreements

ON Thursday, October 20th, the House of Commons agreed in Committee to the resolutions dealing with the agreements arrived at between the British Government and the delegates from the Dominions and India at the Imperial Economic Conference at Ottawa. The resolutions were agreed to on Report on the following day.

Ottawa and Cod-liver Oil

On Monday, Oct. 24th, the House of Commons discussed on Report the resolutions agreed to in Committee of Ways and Means in reference to the Bill for the ratification of the trade agreements reached between the British, Dominion, and Indian Governments at Ottawa.

Mr. RHYS DAVIES moved an amendment to omit from the scope of the proposed agreements the duties on oil, castor oil, linseed oil, coconut oil, ground-nut oil, rape oil, and sesamum oil. He said that in 1930 the imports of Norwegian cod-liver oil were approximately 16,000 barrels, and in 1931 approximately 16,500. We imported cod-liver oil from Newfoundland in the ratio of one to 30 compared with Norway, and those who understood the problem said that it did not matter what preference we gave to Newfoundland, we would never be able to supply our market from within the British Empire with this commodity. Why, therefore, were the Government so very drastic in putting 1*s.* 4*d.* per gallon on cod-liver oil? The people affected by cod-liver oil were very largely consumptives. Local authorities spent enormous sums of money in buying cod-liver oil in bulk for use in sanatoria, and they were very apprehensive that their expenses would be considerably increased by the new duties. Cod-liver oil was supplied in very large quantities under the National Health Insurance scheme, and a great deal of the money spent by approved societies for the medicine in respect of 17,000,000 insured persons was expended on cod-liver oil.

Mr. MCKEAG, in supporting the amendment, said that many a child in the north of this country owed its life to being able to obtain cod-liver oil. The current copy of THE LANCET contained two letters by eminent medical authorities. In one case a doctor wrote: "The possibility of a rise in the price of cod-liver oil, as a result of the Ottawa proposals, must arouse some anxiety in the minds of all who are concerned with the welfare of little children, especially those of the poorer class. Cod-liver oil has a value in early life which cannot easily be replaced, unless indeed any adequate supply can be obtained of other fish-liver oils with similar properties." The letter wound up as follows:—

> "For those whose circumstances make a liberal use of eggs, milk, and cream a simple matter, cod-liver oil is unnecessary, but for the poorly fed who cannot obtain these foods in any adequate quantity, cod-liver oil is of very great value, and it would be a bad day for the children when the price of cod-liver oil rose sufficiently to prevent its use for every child who is needing it."

A lady doctor, of the Lister Institute of Preventive Medicine, also writing in THE LANCET, said: "It is evident that any steps which may raise the price and lower the consumption of cod-liver oil, especially in winter, would have a deleterious effect upon the health of the population, involving particularly the well-being of the children of the poorer classes." The proposed tax, Mr. McKeag continued, could have no other result but to increase the price of cod-liver oil to the poorer people. Of the annual consumption of 500,000 gallons of cod-liver oil, only 25,000 gallons were obtained from Newfoundland, and therefore 475,000 gallons were to be taxed in order to give Newfoundland an increased price.

Mr. H. G. WILLIAMS said that this country was a large cod-liver oil producing country, and last year 5,000,000 cwts. of cod-fish were landed on our shores. These fish were cleaned when caught and the livers taken apart. If the livers were boiled immediately they would give cod-liver oil of medicinal quality, and in some cases boilers for that purpose were provided on the trawlers. The practice in this country in the past had been, to a large extent, in the case of the trawlers going long distances to wait until they reached shore before boiling the livers, which were then rather stale. That produced oil of an industrial quality, which had high medical qualities but was not pleasant to the palate and was therefore mainly used for cattle, and was not given to children. The amount of the duty was 4*d.* a quart, and to the consumer the duty would be not more than 4 or 5 per cent. All that was wrong with our own production was that we were producing relatively too much industrial and not enough medicinal cod-liver oil. We could increase our total production to a substantial extent, and Newfoundland and the United Kingdom could supply all the oil that was needed in admirable qualities at reasonable prices.

Mr. MALLALIEU said that in its issue of Oct. 15th THE LANCET said:—

> "A leading newspaper last Sunday, in dismissing opposition to the Ottawa Agreements, remarked that even the dissenting Liberals 'cannot be exactly stirred to the depths by the reflection that their cod-liver oil will cost them more.'"

and THE LANCET went on to say:—

> "The medical profession is hardly likely to share this light-hearted view of the proposed duties. Year by year it is made clearer that the diet of the poorer classes, if not the richer, is not the 'balanced diet' advised by the text-books. Report after report on rickets, dental caries, maternal mortality, or infectious disease, emphasises the importance of plenty of fresh foods, or, if these are too expensive, of cod-liver oil."

Continuing, Mr. Mallalieu said that the reason why we had been buying cod-liver oil from Norway in the past was because cod-liver oil was produced in Norway under conditions which were most suitable. It was an acknowledged fact that for medicinal purposes cod-liver oil must be produced from fresh livers. It was of no use for medicinal purposes when the livers had become even slightly decomposed. In Newfoundland the fishing was in two of the hottest months of the year, whereas in Norway the fishing was conducted in March and February. In Norway there were admirable factories, some of them owned by British people, whose products the Government proposed to tax on entry into this country. The whole production was concentrated in a very small area, whereas in Newfoundland the production was carried on by small scattered producers whose transport costs were naturally very much more than those of the Norwegians.

Dr. BURGIN (Under-Secretary for the Dominions) said that there were two points with regard to cod-liver oil which the Government had to meet. The first was with regard to the retail price of the ordinary quantity of cod-liver oil required for consumption by children and patients in hospitals. The normal method of selling cod-liver oil was in an 8-oz. bottle or some other regular standard bottle. There was no evidence in the possession of the Government that would lead one to think that the price was going to be increased. They were also advised that the increase in price to any individual farmer for oil for cattle feeding was likely to be quite insignificant. Those two comments broadly disposed of the whole of the case that was made either in THE LANCET or elsewhere with regard to cod-liver oil. The real truth was that there were only certain things that Newfoundland could produce. The cod fisheries and cod-liver oil production were one of Newfoundland's greatest assets. It was tragic that, owing to lack of

demand, something like a third only of the total possibilities of cod-liver oil had been produced in Newfoundland in recent years. It was the hope of the Government that by this method something might be done to encourage that great industry without appreciable extra cost to the consumer.

The amendment was rejected by 264 votes to 64—majority 200.

The Need Test

On Friday, Oct. 21st, Mr. MACDONALD (Prime Minister), replying to Mr. CROOKE, stated that the Government proposed to introduce and pass through all its stages before the end of the present session legislation to deal with certain aspects of the administration of the Need Test. (Cheers.)

HOUSE OF COMMONS

THURSDAY, OCT. 20TH

Dangerous Driving

Mr. ROBINSON asked the Home Secretary whether he was aware that the regulations as to dangerous driving were not being adequately enforced in many areas; and whether he would give instructions to police forces throughout the country to take special notice of the speeds at which heavy commercial vehicles were driven through small towns and villages.—Mr. STANLEY replied: The attention of chief officers of police was specially directed to this matter by my right hon. friend's predecessor a few months ago, and there is no reason to doubt that all practicable steps are taken by the police to check excessive speeding on the part of drivers of heavy vehicles. As at present advised, my right hon. friend does not think that any further instructions on the subject are called for.

Water Pollution Research

Sir COOPER RAWSON asked the Lord President of the Council whether he could furnish any information on the result of the investigations of the microbiology laboratory at the Rothampsted station at Harpenden with regard to the suffocation of fish owing to the discharge into rivers of the residue of fats in water in which churns and other equipment from milk factories and large dairies were cleansed.—Mr. BALDWIN replied: The investigations referred to, which are being carried out at Rothamsted under the auspices of the Department of Scientific and Industrial Research as part of the programme of the Water Pollution Research Board, are not yet complete, though important results have been obtained. There is good reason to expect that milk effluents can be rendered innocuous by filtration methods, and the main problem remaining is to discover an economical method of getting rid of fatty film which accumulates on top of the filter bed.

The Umckaloabo Treatment

Sir COOPER RAWSON asked the Minister of Health whether he had further considered the treatment for tuberculosis known as umckaloabo, and the cases in which it was claimed cures had been effected; and if he would institute an official inquiry into the merits of the system.—Sir E. HILTON YOUNG replied: The evidence available in regard to the efficacy of this preparation has been carefully considered on several occasions. I am advised that the claims made on its behalf in regard to tuberculosis do not appear to differ in character or degree from those made for many other so-called "remedies" which have been advertised from time to time and afterwards found to be valueless. The answer to the second part of the question is in the negative.

Assistance to Deaf and Dumb Persons

Mr. ROBINSON asked the Minister of Health whether he was aware of the discrepancy which existed between the provisions made for the treatment of blind persons and those who were deaf and dumb; and whether he would consider taking steps which would ensure that deaf and dumb persons were placed on a level with the blind in respect of assistance given from public sources.—Sir E. HILTON YOUNG replied: The report recently made to my department and the Board of Education on an investigation into the conditions of the deaf and dumb in this country will shortly be published. In the meantime it is not possible to contemplate the introduction of legislation on this subject.

Psittacosis

Mr. TURTON asked the Minister of Health how many cases of psittacosis had been reported in this country before the present restrictions upon the importation of parrots were imposed four years ago, and how many cases had been reported since the restrictions were imposed; and whether, in view of the inconvenience the restrictions caused, he could relax or abolish them.—Sir E. HILTON YOUNG replied: Some 125 cases of psittacosis were reported in this country before the present restrictions came into force, and four cases have been reported since. In view of the fact that further cases of this disease have recently occurred in the United States of America and on the Continent of Europe, and that the Office International d'Hygiène Publique have recommended the maintenance of existing prohibitions, I cannot see my way at present to relax or revoke the Regulations in force in this country.

Children in Poor-law Institutions

Mr. LOVAT-FRASER asked the Minister of Health how many children over the age of 3 were living in poor-law institutions in the county of Cornwall and within the area of the Isle of Ely county council respectively.—Sir E. HILTON YOUNG replied: I am informed in a recent report of my general inspector that there are 60 children over 3 in poor-law institutions (as distinguished from children's homes) in the county of Cornwall, and that there are 32 such children in poor-law institutions in the Isle of Ely.

Infantile Mortality

Mr. RHYS DAVIES asked the Minister of Health if he could give the infantile mortality-rates for London, New York, Chicago, Paris, Berlin, Vienna, and Moscow for the last year for which statistics were available.—Sir E. HILTON YOUNG replied: The latest year for which comparative statistics are available for all these cities is 1929. The infantile mortality-rates (number of deaths under one year per 1000 live births) in that year were as follow: London, 71; New York, 59; Chicago, 60; Paris, 101; Berlin, 86; Vienna, 79; and Moscow, 129. These figures are given in the League of Nations publication, "Statistics of Notifiable Diseases, 1929."

MONDAY, OCT. 24TH

Milk Reorganisation Report

Captain PETER MACDONALD asked the Minister of Agriculture by what date the report of the Milk Reorganisation Committee would be available.—Major ELLIOT replied: The Milk Reorganisation Commission is, I understand, now considering its recommendations, and its report is expected to be available before the end of this year.

Employment of Juveniles

Viscountess ASTOR asked the Home Secretary whether it was the intention of the Government to bring before Parliament at an early date a resolution authorising local authorities to make by-laws relating to the hours and conditions of employment of juveniles.—Sir JOHN GILMOUR replied: I presume that the noble lady refers to Section 51 of the Children and Young Persons Act, 1932, which confers powers upon local authorities to regulate by by-laws the employment in certain occupations of persons between 14 and 18 years of age. Subsection (4) of that section provides that an order of the Secretary of State appointing a date for these powers to come into operation shall not become effective until it has been approved by resolutions passed in the same session of Parliament by both Houses of Parliament. I would refer the noble lady to the statements made by the Government spokesman when this provision was under discussion in this House. The Government spokesman stated that it was not the intention of the Government that this question should be dealt with merely by bringing into operation Section 51 of the Children and Young Persons Act, 1932. He made it clear that it was the intention of the Government, when they came to deal with this question, to bring it before Parliament in the form of a Bill.

NEW WING AT PORT TALBOT HOSPITAL.—Last week the Bishop of Llandaff dedicated a new children's wing as a memorial to the late Sir Sidney Byass at the Port Talbot Memorial Hospital.

HULL ROYAL INFIRMARY.—Mr. R. J. LOWSON has compiled an account of "The Hull Royal Infirmary, 1782–1932," to which have been added biographical notes of the hon. medical staff by Dr. Robert Grieve. This admirable little addition to hospital historical literature contains many interesting details, especially in regard to the early days of the institution. One of its benefactors in the beginning was Sir Henry Etherington, who disapproved of the maintenance of an honorary staff, suggesting that only one physician and one surgeon should be employed and that they should be paid. "I suppose," he wrote, "the physician would not expect more than two guineas per week, that being the usual fee for twice attendance every day." There were originally 60 beds; there are now 397.

OBITUARY

ATWOOD THORNE, M.B. Lond.

Dr. Atwood Thorne, who died at Caerleon on Oct. 6th, was born in 1867 in Shanghai, the son of Mr. J. Thorne, and received his general education at Brighton College, proceeding to St. Mary's Hospital for his medical training. A successful student, he held the appointments of house surgeon and obstetric officer at the hospital, and was assistant in the laryngological department for two years. This determined his later special work: he was elected surgeon to the London Throat Hospital, was a vice-president of the British Laryngological, Rhinological, and Otological Association, and for a period was secretary of the Laryngological Section of the R.S.M. He was also the author of a small book dealing with the education of the deaf in the metropolitan area.

Atwood Thorne was known prominently as a medico-military volunteer. He had been a volunteer as a lad, and when he served as a surgeon-captain C.I.V. in the South African War, where he was mentioned in despatches, he was already in receipt of the V.D. In the late war he was appointed honorary Colonel R.A.M.C., held two responsible administrative posts, and received the Queen's medal and three clasps.

Apart from his medical and military interests, Atwood Thorne was a considerable archæologist, and, when on retirement he decided to live at Caerleon, he took an active interest in the excavation of Roman remains in the neighbourhood, some of them on his own property. He also made a valuable collection of pink lustre pottery, which he described in a beautifully illustrated book. He was for two years master of the Cutlers Company.

In the many different and important contacts which he made with life Atwood Thorne earned deservedly the high regard of his fellows.

AFTER more than a year of ill-health Dr. GEORGE BLAKE MASSON died on Oct. 11th, at Litlington, near Alfriston, in Sussex. A son of Colonel Masson, and grandson of General George Blake, he was born at Darjeeling 72 years ago. He got his medical education at Cork and Dublin and in Edinburgh where he qualified in 1883. Most of his professional life was spent in Norfolk, first at Saxlingham, near Norwich, and later at Fincham, Downham Market. Here Dr. Masson practised until the war, acting as medical officer and public vaccinator of his district. When war broke out he already held a major's commission in the Territorials, being attached to the 2nd East Anglian Field Ambulance, and on service in France he was promoted Lieut.-Colonel. In 1920 he went to practise at Alfriston and he remained in active work there until his illness last year. A good shot and a rider to hounds, he was popular in the district and made many friends. He is survived by his widow.

Dr. HENRY JAMES BAILEY, who died on Oct. 10th at the age of 67, was one of the senior medical practitioners of Brighton. He graduated at Edinburgh in 1887 and after holding a house appointment at the Royal Albert Hospital, Devonport, came to London to work as assistant medical officer in the London Medical Mission Dispensary. Thence he went out to Palestine, where his father was engaged in mission work, and became medical superintendent of the Church Missionary Society's hospital and dispensary at Nablus. He spent several years there, and when he returned to England lived at Southport before settling down finally at Brighton. Here he acquired a large practice, and a few years ago was joined in partnership by Dr. Ivor Kinsley. Dr. Bailey leaves a widow and one son, Mr. Hamilton Bailey, who is surgeon to the Royal Northern Hospital.

ON Oct. 8th Dr. SAMUEL WELLESLEY COOMBS died at Poole in Dorset, aged 76. For many years he was one of the leading practitioners of Worcester, where he was associated with the Dispensary for over 40 years. Son of the late Harold Coombs, of Worcester, he was educated at the local grammar school, and qualified from Glasgow in 1878, gaining the Richardsonian prize. After holding house appointments at the Glasgow Royal Infirmary he returned to Worcester and became medical officer to the Dispensary. In 1881 he became F.R.C.S. Edin., and later he was appointed anæsthetist to the Infirmary. When in 1919 he relinquished his post as district medical officer he told the Board that he had kept records of his professional mileage during 40 years, and found that during this time he had cycled 110,000 miles, driven horses 90,000 miles, and motored 40,000, making 240,000 miles in all—or once round the world in every four years. On his retirement in 1919, when he went to live at Poole, Dr. Coombs was succeeded by his partner, Dr. F. L. Spalding. He married in 1883, and leaves a son and two daughters.

Dr. MATTHEW LOVELL MACKINTOSH, who died in London on Sept. 26th, followed his father as a practitioner in the Crowborough district. After taking the Scottish conjoint diploma in 1890 he served as a ship's surgeon with the Clan line, and returned to practise for a time at Barrow-in-Furness, before finding his permanent home in Sussex. He was on the staff of the Crowborough Cottage Hospital, and was a keen supporter and follower of many kinds of sport.

Births, Marriages, and Deaths

BIRTHS

BRODIE.—On Oct. 24th, at Melbourne, Australia, the wife of Dr. C. E. Brodie, of a son.

FRASER.—On Oct. 18th, at Lima House, Reading, the wife of Dr. H. D. Forbes Fraser, of a daughter.

JAMES.—On Oct. 22nd, at The Lawn, Hillingdon, Middlesex, the wife of Dr. G. W. B. James, of a son.

MCCORMICK.—On Oct. 20th, at Welbeck-street, W., the wife of Dr. Edward William McCormick, of a son.

MARRIAGES

WOODD-WALKER—TROILI.—On Oct. 19th, 1932, at Rada, Sweden, Geoffrey Basil Woodd-Walker, M.B., F.R.C.S., of 19, Queen Anne-street, W.1, and 6, Dawson-place, W.2, to Ulla Troili, of Uddeholm, Sweden.

DEATHS

BULCOCK.—On Oct. 16th, suddenly, at Foxley-lane, Purley, Dr. Joseph Henderson Bulcock.

MCLAREN.—On Oct. 21st, Dr. Thomas McLaren, of 27, Bruce-grove, Tottenham, London, N.17.

MURPHY.—On Oct. 14th, suddenly, at Dangan Cottage, Thomastown, of acute gastro-enteritis, Patrick Joseph Murphy, F.R.C.S.

POPE.—On Oct. 19th, 1932, at Southend, Percy Pope, M.R.C.S., L.R.C.P., M.D.

SMITH.—On Oct. 17th, John Salmon Smith, M.R.C.S., L.R.C.P. Lond., D.P.H. Camb., of West Road, Old Colwyn, late West African Medical Service.

WEISS.—On Oct. 15th, Major Willoughby Gaspard Weiss, V.D., T.D., Dental Surgeon, aged 75.

N.B.—A fee of 7s. 6d. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Medical Diary

SOCIETIES

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.

TUESDAY, Nov. 1st.—5.30 P.M., ORTHOPÆDICS. (Cases at 4.30 P.M.) Cases: Mr. E. P. Brockman: 1. Osteitis of the Os Calcis. 2. Ewing's Tumour. Mr. R. Brooke: 3. Localised Decalcification of the Knee-joint. 4. X Ray Pictures of a Similar Case. Mr. Alan Todd: 5. Syringomyelia with Scoliosis. 6. Scoliosis with Paraplegia (Recovered). Further report of a case shown in 1930. Other cases will be shown.—8.30 P.M., PATHOLOGY. Laboratory Meeting at the Pathological Institute, London Hospital, E.1. Demonstrations: Dr. S. P. Bedson and Dr. J. O. Bland: Developmental Forms of Psittacosis Virus. Dr. J. O. Bland and Dr. D. S. Russell: Tissue Cultures of Various Types of Glioma. Dr. D. T. Harris: A Continuous Kataphoresis Apparatus suitable for Bacteriology. Dr. T. Lumsden: Some Effects of Radiation on Tissues. Dr. E. P. Stibbé: Some Congenital Abnormalities. Dr. H. M. Turnbull: Bony Changes in Cœliac Disease and Renal Rickets. Dr. F. C. O. Valentine: A Modification of the Direct Method of Typing Pneumococci. Dr. J. Vaughan: Erythroblastic Anæmia Associated with Cœliac Disease. Dr. W. W. Woods and Dr. A. B. Bratton: Pathological Specimens.

WEDNESDAY.—5 P.M., HISTORY OF MEDICINE. Papers: Dr. Vincent Dickinson: The Outbreak of Plague at Milan in 1630. Dr. Aubrey Lewis: Melancholia. 8.30 P.M., MEDICINE AND SURGERY. Special Discussion on the Treatment of Acute Appendicitis. Openers: Dr. J. A. Ryle (Medicine) and Mr. H. H. Rayner (Surgery).

THURSDAY.—SEMON LECTURE. 8.30 P.M., TROPICAL DISEASES AND PARASITOLOGY. Symposium on the Pathology of Bucco-pharyngeal and Skin Ulcers. Mr. T. Pomfret Kilner: The Surgical Aspects of Certain Skin Ulcers. Dr. F. C. Smith: The Pathology of Tropical Ulcer with Especial Reference to the Distribution in the Lesion of *B. fusiformis* and *Spirochæta schaudinni*. Sir Aldo Castellani: Blastomycetic Ulcers. Dr. W. Broughton-Alcock: Spirochætal Ulcers of the Mouth and Skin. Dr. J. G. Thomson: The Pathology of Dermal Leishmaniasis. Members of these Sections of Comparative Medicine, Dermatology, and Pathology are specially invited to attend and to take part in the subsequent discussion.

FRIDAY.—10.30 A.M., OTOLOGY. (Cases at 9.30 A.M.) Discussion: The Treatment of Lateral Sinus Thrombosis. Openers: Mr. A. E. Peters and Mr. F. Wilson. Cases and specimens will be shown. 5 P.M., LARYNGOLOGY. (Cases at 4 P.M.) Presentation of portrait to Sir StClair Thomson. Presidential address by Mr. E. Musgrave Woodman. Cases and specimens will be shown by Mr. E. Broughton Barnes, Mr. Herbert Tilley, Mr. E. D. D. Davis, and others. 8.30 P.M., ANÆSTHETICS. Dr. C. F. Hadfield: Modern Aids to Anæsthesia. (Presidential address.) Members of the Section of Comparative Medicine are specially invited to attend.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.

FRIDAY, Nov. 4th.—8.30 P.M. (at the West London Hospital), Mr. O. L. Addison: Chronic Pyuria in Children.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East, S.W.

TUESDAY, Nov. 1st.—5 P.M., Dr. Dugald Baird: The Upper Urinary Tract in Pregnancy. (Bradshaw lecture.)

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's-inn Fields.

MONDAY, Oct. 31st.—5 P.M., Mr. R. Davies-Colley: Intestinal Cysts and Diverticula.

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION, 1, Wimpole-street, W.

MONDAY, Oct. 31st, to SATURDAY, Nov. 5th.—MEDICAL SOCIETY OF LONDON, 11, Chandos-street, Cavendish-square, W.). Tues., 4 P.M., Series of Lectures on Renal Disease by Dr. A. Arnold Osman: Nephritis and Nephrosis. (Free to Members.)—HOSPITAL FOR SICK CHILDREN, Great Ormond-street, W.C. Diseases of Children. Mornings only.—WEST END HOSPITAL FOR NERVOUS DISEASES, 73, Welbeck-street, W. A Course in Neurology, daily at 5 P.M., Oct. 31st to Nov. 26th.—ROYAL WESTMINSTER OPHTHALMIC HOSPITAL, Broad-street, W.C. A Course in Ophthalmology. Afternoons: Oct. 31st to Nov. 19th.—10, BEDFORD-SQUARE, W.C. Dr. A. Knyvett Gordon will give a demonstration on Clinical Pathology (Epidiascope and Laboratory) on Wed. at 8.30 P.M. (Specially suitable for M.R.C.P. Candidates.)

WEST LONDON HOSPITAL POST-GRADUATE COLLEGE, Hammersmith-road, W.

MONDAY, Oct. 31st.—10 A.M., Skin Department, Surgical Wards. 2 P.M., Eye and Gynæcological Out-patients.

TUESDAY, Nov. 1st.—10 A.M., Medical and Surgical Demonstrations. 2 P.M., Throat, Nose, and Ear Out-patients. 4.15 P.M., Lecture, Dr. Owen: The New-born Child.

WEDNESDAY.—10 A.M., Medical Wards, Children's Out-patients. 2 P.M., Eye Out-patients. 4.45 P.M., Venereal Diseases Demonstration.

THURSDAY.—10 A.M., Neurological Out-patients, Fracture Demonstration. 2 P.M., Eye and Genito-Urinary Out-patients. 4.15 P.M., Lecture, Dr. Shaw: Jaundice.

FRIDAY.—10 A.M., Medical Wards, Skin Department. 2 P.M., Throat, Nose, and Ear Out-patients. 4.15 P.M., Lecture, Dr. R. Ironside: The Nervous System.

SATURDAY.—10 A.M., Medical Wards, Children's Out-patients, Surgical Wards.

Daily, 2 P.M., Operations. Medical and Surgical Out-patient Departments.

The lectures at 4.15 P.M. are open to all medical practitioners without fee.

LONDON SCHOOL OF DERMATOLOGY, St. John's Hospital, 49, Leicester-square, W.C.

MONDAY, Oct. 31st.—5 P.M., Dr. G. B. Dowling: Mycotic Diseases.

TUESDAY, Nov. 1st.—5 P.M., Dr. H. MacCormac: Diseases Due to Animal Parasites.

THURSDAY.—5 P.M., Dr. W. J. O'Donovan: Occupational Dermatitis.

NATIONAL HOSPITAL, Queen-square, W.C.

MONDAY, Oct. 31st.—2 P.M., Dr. Riddoch: Out-patient Clinic. 3.30 P.M., Dr. Kinnier Wilson: The Motor System.

TUESDAY, Nov. 1st.—2 P.M., Dr. Walshe: Out-patient Clinic. 3.30 P.M., Dr. Martin: Intercranial Pressure.

WEDNESDAY.—2 P.M., Dr. Martin: Out-patient Clinic. 3.30 P.M., Dr. Collier: Clinical Demonstration.

THURSDAY.—2 P.M., Dr. Kinnier Wilson: Out-patient Clinic. 3.30 P.M., Dr. Kinnier Wilson: The Motor System.

FRIDAY.—2 P.M., Dr. Adie: Out-patient Clinic. 3.30 P.M., Dr. Bernard Hart: Psychoneuroses.

HAMPSTEAD GENERAL AND NORTH-WEST LONDON HOSPITAL POST-GRADUATE SCHOOL.

WEDNESDAY, Nov. 2nd.— 4 P.M., Dr. H. V. Morlock: Recent Advances in the Diagnosis of Pulmonary Disease.

CENTRAL LONDON THROAT, NOSE, AND EAR HOSPITAL, Gray's Inn-road, W.C.

FRIDAY, Nov. 4th.—4 P.M., Mr. C. Gill-Carey: Foreign Bodies in the Food and Air-passages.

ST. PETER'S HOSPITAL FOR STONE, POST-GRADUATE COURSE, Henrietta-street, Covent Garden, W.C.

WEDNESDAY, Nov. 2nd.—3 P.M., Mr. J. Swift Joly: Vesical Calculus.

ST. PAUL'S HOSPITAL, Endell-street, W.C.

WEDNESDAY, Nov. 2nd.—4.30 P.M., Mr. R. H. Jocelyn Swan: Hæmaturia.

KING'S COLLEGE HOSPITAL MEDICAL SCHOOL, Denmark-hill, S.E.

THURSDAY, Nov. 3rd.—9 P.M., Mr. St. J. D. Buxton: Injuries of the Hand.

SOUTH-WEST LONDON POST-GRADUATE ASSOCIATION, St. James' Hospital, Ouseley-road, Balham, S.W.

WEDNESDAY, Nov. 2nd.—4 P.M., Dr. Stanley Wyard: Medical Progress, 1932.

ROYAL INSTITUTE OF PUBLIC HEALTH, Queen-square, W.C.

WEDNESDAY, Nov. 2nd.—4 P.M., Mr. M. Donaldson: The Cancer Problem in Relation to the General Practitioner.

THURSDAY.—4 P.M., Dr. R. M. Stewart: Causation of Mental Deficiency.

CHADWICK PUBLIC LECTURES.

TUESDAY, Nov. 1st.—5.15 P.M., (at the Royal Society of Tropical Medicine and Hygiene, 26, Portland-place, W.), Prof. Keilstra (Leyden): Hygiene in the Far East.

MANCHESTER ROYAL INFIRMARY POST-GRADUATE LECTURES.

TUESDAY, Nov. 1st.—4.15 P.M., Dr. A. Ramsbottom: Treatment of Indigestion.

FRIDAY.—4.15 P.M., Mr. J. P. Buckley: Demonstration of Surgical Cases.

ANCOATS HOSPITAL, Manchester.

THURSDAY, Nov. 3rd.—4.15 P.M., Mr. P. G. McEvedy: Infection Treatment.

GLASGOW POST-GRADUATE MEDICAL ASSOCIATION.

WEDNESDAY, Nov. 2nd.—4.15 P.M. (at the Royal Hospital for Sick Children), Prof. G. B. Fleming: Pneumonia in Infancy and Childhood.

Appointments

BERESFORD, A. L., M.B., Ch.B.Liverp., has been appointed Certifying Surgeon, under the Factory and Workshop Acts, for the Glyn Ceiriog District, Denbigh.

CONDY, E. M., M.B., B.Ch. Belf., D.P.H., Medical Officer, Caledon Dispensary District, Tyrone.

GEMMELL, A. A., M.D. Camb., F.R.C.S. Edin., Gynæcological and Obstetrical Surgeon, David Lewis Northern Hospital, Liverpool.

REID, Margaret S. M., M.D., Ch.B., D.P.H., Resident Medical Officer, Isolation Block, Queen Charlotte's Hospital Hammersmith.

London County Council: GUNN, A. L., F.R.C.S. Edin., M.D. Wales, Senior Assistant Medical Officer, Grade II., St. Leonard's; HARLEY, H. C., B.M., B.Ch. Oxf., Assistant Medical Officer, Grade I., Lewisham; LEIPER, E. J. R., M.B., Ch.B. Aberd., Assistant Medical Officer, Grade II., St. Stephen's; MADEL, G. A. M., L.R.C.P., M.R.C.S., House Physician, St. James's; and WEINSTEIN, CELIA, L.R.C.P., M.R.C.S., House Physician, Lewisham.

NOTES, COMMENTS, AND ABSTRACTS

A GRUESOME FAMILY

THERE recently appeared at the Clerkenwell police-court, on a charge of larceny, a lad of 18, accompanied by a younger lad whom he was said to have led into trouble. The magistrate, Mr. Claud Mullins, instituted inquiry into the family history of the elder boy, whose low mentality was apparent to him. He asked the boy's father how many other children he had, a question which the father was unable to answer promptly; but he made calculations on his fingers, eventually arriving, with the help of the magistrate, at a total which proved to be wrong. The father was out of work, and could not read the words of the oath. On the boy coming before the court later, on remand, the magistrate read out some of the information which he had received, to the following effect. The father, aged 62, was living with the mother and 11 of his children and grandchildren in two rooms. Certain of his children were adults, and six adults with four children were sleeping in one room. The father's family had been made up as follows: (1) Daughter, 32, attended mental deficiency school as a child, married, with children, one of whom is at M.D. school. (2) Daughter, 31, married; one child at M.D. school. (3) Daughter, 30, married. (4) Son, 28, attended M.D. school, married, and wife deserted him; three children, two stammerers, and one with very bow legs. (5) Daughter, 26, attended M.D. school, married. (6) Daughter, 24, attended M.D. school. (7) and (8) Twin boys, died in infancy. (9) Son, 22, attended M.D. school, on dole. (10) Boy, died of scarlet fever in infancy. (11) Son, 18—the prisoner. He attended M.D. school and left "able to read two-syllable words with difficulty." Said to be "lazy, self-willed, and subject to occasional violent outbursts of temper." Was constantly truanting or late. Prison doctor now certified him as feeble-minded. (12) Boy, died at five days of "hæmorrhage." (13) Boy, 16, out of work; has exhausted his dole. (14) Daughter, 13, a diphtheria-carrier, and now in the fever hospital. The mother stated that so far she had 19 grandchildren.

MATERNITY IN THE AUSTRALIAN BUSH

IT may be recalled that, at the end of 1927, after a two years' inquiry into the causes of maternal mortality and morbidity in the State of Victoria, Dr. R. Marshall Allan published the surprising fact that 2273 confinements had been conducted between the years 1922 and 1927 by members of the Bush Nursing Association without a single maternal death. In an outline of the Association, recently written by the hon. secretary, Sir James Barrett, vital statistics for the years 1931–32 show that, though a mortality-rate of none per thousand has not been maintained, as indeed could hardly be expected, the rates, not only of maternal deaths, but also of neonatal deaths and stillbirths are far lower than those for the State as a whole, the figures per 1000 live births being:—

	B.N.A.	State.
Maternal death-rate.. ..	1·9	4·9
Neonatal death-rate.. ..	14·9	30·1
Stillbirth rate..	17·0	29·7

Actually there was one maternal death out of 948 deliveries. Bush nurses have always worked in close association with the medical profession, and the establishment of additional Bush nursing hospitals, and their popularity, have led to an increasing number of confinements taking place in these institutions. The percentage of patients receiving antenatal care is exceptionally high; in the year ended June, 1931, bush nurses attended 1044 maternity patients and gave antenatal advice to 893 of them. These nurses hold a threefold certificate—for general nursing, midwifery, and infant welfare. They are also skilful in gaining the confidence of their patients and persuading them to visit a doctor for antenatal examination. This team-work results in timely recognition of abnormality or a risk of it, followed by prompt treatment.

A STAFF OFFICER'S TRAVELS.

Dr. J. Johnstone Redmond sends us some interesting particulars taken from the diary of his grandfather, Gabriel Redmond, M.D., a former inspector-general of military hospitals. In 1812 this officer was ordered to Canada to inspect and report on the military hospitals, England then being at war with the United States. He left Spithead on August 27th and arrived at Quebec on Oct. 10th after a stormy voyage during which they were attacked by an armed privateer. In those days officers supplied their own rations to a large extent, and Redmond for his own party—consisting of wife, child, maid, and man-servant—took on board the following provisions: one dozen port wine, two dozen Madeira, five dozen porter, one goat, three sheep, and three dozen and nine fowls, together with salt beef, salt pork, biscuit, oatmeal, pease, flour, sugar, coco, and two quarts of rum. During his tour of Canada he covered in open wagons, open boats, on sloops of war, in sledges, carriages, and stage coaches, but mostly on horseback, a total of 1354 miles.

Vacancies

For further information refer to the advertisement columns

Barrow-in-Furness County Borough.—Asst. M.O. £500.
Bedford County Hospital.—Second H.S. At rate of £140.
Bethlem Royal Hospital, Monk's Orchard, Beckenham, Kent.—Consulting Ophthalmologist.
Birmingham and Midland Ear and Throat Hospital.—Asst. Surg. O. £200.
Birmingham, Dudley-road Hospital.—Jun. Asst. M.O.'s. All at rate of £200.
Blackpool County Borough.—Asst. School M.O. £550.
Bolingbroke Hospital, Wandsworth Common, S.W.—Clin. Asst., Ear, Nose, and Throat Dept. £100.
Bradford Royal Eye and Ear Hospital.—Jun. H.S. £150.
Chesterfield and North Derbyshire Royal Hospital.—H.S. At rate of £150.
Colchester, Royal Eastern Counties Institution, &c.—Res. Asst. M.O. £350.
Croydon General Hospital.—Asst. Physician.
Greenwich, Dreadnought Hospital.—Asst. Radiologist. 50 gns.
Grosvenor Hospital for Women, Vincent-square, S.W.—Two Hon. Anæsthetists.
Herefordshire General Hospital.—Hon. Surgeon.
Hospital for Epilepsy and Paralysis, Maida Vale, W.—Hon. Surgeon to Ear, Nose and Throat Department.
Hull Municipal Maternity Home and Infant's Hospital.—Jun. Res. M.O. £100.
Hull Royal Infirmary.—Res. Cas. O. £200.
Lincoln County Hospital.—Jun. H.S. At rate of £150.
Liverpool, Stanley Hospital.—H.S. At rate of £100.
London Hospital, E.—First Asst. and Reg. £300.
London Jewish Hospital, Stepney Green, E.—Res. M.O. and Cas. O. Each at rate of £150. Also Jun. Res. M.O. At rate of £100.
Middlesex Hospital and Medical School, W.—Medical and Surgical Registrarship. Each £300.
N. Kensington Women's Welfare Centre, 12, Telford-road, W.—Gynæcologist.
Queen Mary's Hospital for the East End, E.—H.S. £120.
Rochdale Infirmary and Dispensary.—Jun. H.S. £200.
Royal Chest Hospital, City-road, E.C.—Res. M.O. and H.P. At rate of £150 and £100 respectively.
Royal Free Hospital, Gray's Inn-road, W.C.—Asst. M.O. for V.D. Dept. £350. Also Gynæcological Registrar and First Asst. in Children's Dept. Each at rate of £100.
St. John's Hospital for Diseases of the Skin, 49, Leicester-square, W.C.—Two Hon. Asst. Physicians.
St. Mary's Hospital, W.—Hon. Anæsthetist.
Southend-on-Sea General Hospital.—Out-Patient Asst. £250.
University College Hospital, Gower-street, W.C.—First Asst. for Children's Dept. £250.
Wakefield Mental Hospital.—Asst. Officer. £350.
Willesden General Hospital, Harlesden-road, N.W.—Hon. Med. Staff, Ophth. Surgeon.
Willesden Urban District Council.—M.O. £600.
Worcester General Infirmary.—Third Res. M.O. £120.

The Chief Inspector of Factories announces vacancies for Certifying Factory Surgeons at Exmouth (Devon); Southminster (Essex); and at Wantage (Berks.)